JOURNAL OF THE U. S. CAVALRY ASSOCIATION.

July, 1916.

JOURNAL

OF THE

United States Cavalry Association.

VOL. XXVII. JULY, 1916. No. 111

MILITARY NOTES

HOBBLES.*

IN case of active service in the field, under war conditions, in a territory where hay cannot be easily procured, it will become necessary to subsist the horses largely by grazing.

2. This will require the use of hobbles, for the reason that horses not so secured are liable to stampede, a thing which must be guarded against in every way. The efficiency of a command may be ruined for days and weeks by a stampede.

3. Since the Ordnance Department no longer issues hobbles, it may be necessary, before the command takes the field, for the troops to purchase them or manufacture them.

4. The commercial form of hobble used in this country can be purchased at retail for one dollar. It consists of two heavy straps, each strap lined with sheepskin, the straps to buckle around the animal's forelegs, the two straps connected by a chain. It is not unlikely that this chain for some horses

*Memorandum No. 5, Headquarters First Cavalry Brigade, August 2, 1915.

is too short and should be lengthened. Another form of hobble is the Mexican rawhide maneja. These are in common use in this country, and a pair should be obtained in each troop with a view to manufacturing similar hobbles in an emergency when the commercial type cannot be obtained. This hobble consists of a strip of rawhide about forty-six inches long and three inches wide, there being a buttonhole in one end and a Turk's head or a toggle at the other end to engage in the buttonhole. It passes around one fore leg and is then twisted, and then buttoned around the other foreleg. These hobbles will cost about fifteen cents per pair for rawhide, not counting labor. They are usually carried untwisted and buttoned around the horse's neck.

5. The following remarks by Captain C. H. Conrad, Jr., Fifteenth Cavalry, in a communication addressed to this office, apply to the use of hobbles on the foreleg:

"While ponies and burros can be hobbled with these hobbles from the start without injury to themselves, the larger American horse should be broken to their use with a pair about four inches longer than those finally used. The horse for the first few lessons should be turned loose in the stable yard or some soft place with the training hobbles on. He is apt to become frightened at first and must have plenty of room and be let alone. After hobbles are put on, the horse should not be urged to move. Let him take his time for this. If the short, or what might be called the service hobbles, are used at first the horse is liable to throw himself and may injure himself. A couple of lessons of about one-half hour each with the training hobbles are usually sufficient to give any horse the idea and teach him how to move when hobbled. Three or four sets of training hobbles are sufficient for a troop.

These hobbles should be made so that it is impossible to slip them down to the pastern joints. They should stay above the upper pastern joint. Eight and one-half inches is usually correct for size of loops.

HALTERS AND HALTER SHANKS.

QUESTIONS of economy led the War Department sometime ago to take up the matter of replacing the leather halter and halter shank, with similar articles of less expensive material. With the present price of leather the leather halter and shank would now cost in excess of three dollars, whereas a durable, a neat rope halter and tie-rope can be issued to the service for about eighty-six cents.

With a view to learning the views of officers, based on actual experience, organization commanders of the 3d, 10th, 12th, 13th and 14th Regiments of Cavalry, and the 6th Field Artillery, all of whom were practically in the field on border duty, were asked to vote on the question of four different types of shanks, the latter being the part most frequently broken in service.

Forty-three replies were received, summarized as follows:

Type	*Favorable reports.*
⅝ inch oval webbing	3
⅜ inch linen sash cord	2
1⅜ inch halter webbing	10
½ inch manila rope	28
Total	43

The replies were therefore overwhelmingly in favor of the use of the one-half inch manila rope for tie-ropes. In this connection it has been found that dipping such ropes in tar paint trebles its life—the only question being the soiling of clothing by handling.

The remarks of organization commanders with respect to the halter shanks tested, have been that the five-eighth inch oval webbing was not strong enough, and quickly wore out when rubbed against the picket line; the three-eighth inch linen sash cord became hard and stiff when wet, and when broken

could not be readily repaired; while the one and three-eighth inch halter webbing raveled into strips and did not last long.

There is a general disposition in the mounted service to favor permanent halter chains for use in stables or on picket line in garrison: and these chains in stables have been quite favorably reported upon in connection with improvised counter-weights to take up the slack the chains running through auger-holes in the hay-rack.

These matters have been taken up for consideration by the Cavalry Equipment Board at Rock Island Arsenal, and it is quite probable that coils of one-half inch manila rope will be issued to organizations in quantities, to be utilized for tie-ropes as the exigencies of the service demand.

C. D. R.

IDENTIFICATION OF PUBLIC ANIMALS.

I WISH to convey my compliments to Mr. E. O. Trowbridge upon his alphabetical and numerical system of identification, which is a modification of the very tentative system proposed by me in a former number of the JOURNAL. His article has only just come to my eye. His comments on my proposition are accepted in perfectly good part. His own system has many points which are an improvement upon the original suggestion. At first it was necessary to present the matter to the service in simple form in order to overcome the very general prejudice to disfigurement of the animal by branding.

However, I hope that Mr. Trowbridge may not lead the Department into committing a fundamental error. Nothing must be left, no duty in the matter must be left, to organization commanders, after arrival of the animal at point of service. He must arrive finally branded and fully identified, with all clerical work completed. Multiplication of agents, in applying the system, will insure its failure. This is not to say that our

troop and battery commanders are deficient, but it is always the part of wisdom, when possible, to simplify duties which depend upon discipline for their performance. It is still better to reduce the number of such duties, rather than to multiply them, counting wisely upon the certain percentage of human error.

Certainly it is very easy for purchasing agents to apply hoof brands at the point of purchase, rather than hide brands. But Mr. Trowbridge, as an obviously able agent of the Department, can suggest some method by which the Quartermaster Corps shall not pass down this duty to the line. Organization commanders are very intently occupied upon occasions when animals arrive at the front, sometimes under very high tension. Any system must relieve them of what is very obviously an administrative duty and therefore a proper one for a staff department to perform in quieter scenes very far behind the lines.

I note that Mr. Trowbridge has interested some very prominent officers of the mounted service, and procured their endorsement, as, also, I had done. When somebody starts a ball rolling it is fun for everybody to give it a push. Many more are wanted in this game.

GUY H. PRESTON,
Major, Second Cavalry.

THE FRENCH CAVALRY.

SO little has appeared in print as to the part taken by the cavalry of any of the great powers in the war abroad, that particular interest attaches to the remarks of a distinguished officer of the French Army, who is in the United States in the interest of his government, and who expressed himself to a cavalry officer at one of our western posts, substantially as follows:

"With certain modifications as to the armament and the tactical use of cavalry, the latter arm will be used as much as

ever in wars of the future. The French cavalry was used up and exhausted in the first weeks of the great war; the horses were completely run down, and in many cases disabled through sore backs. If we had had our cavalry fresh and intact after the battle of Mons, we could have struck a most telling blow at the German Army; in fact, we might have ended the war right there.

"On the eastern front, where there is plenty of room to maneuver, cavalry is being used normally by both sides.

"On the western front, where the trench warfare resembles siege operations pure and simple, and where the flanks are guarded by the impassable obstacles—the English Channel and the neutral country of Switzerland, the cavalry is of course being utilized as infantry. In the French cavalry regiments, one half occupies the trenches, while the other half recuperates well to the rear. When the trench troops are to be relieved, the reserves, ride well up to the advanced lines on their cavalry horses, relieve their comrades, and the latter ride the mounts back to the protected base of the regiment.

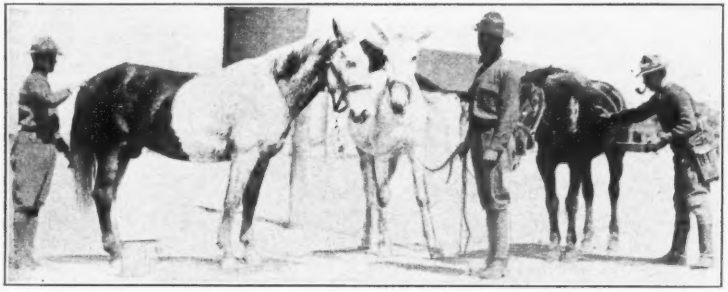
"When our cavalry first occupied the trenches, the Germans learned to differentiate their fire from that of the French infantry, because the cartridges for the French rifle and carbine being the same, the consumption of the powder in the carbine gave a different explosive effect from that in the rifle. When the Germans discovered this, they would shout "Cavalry! Cavalry!" and charge with the bayonet. This soon caused the French cavalry to attach bayonets to the carbines, both for offensive and defensive action. But before this was done, it is a matter of record that a certain dismounted regiment of French Lancers, charged the German trenches with their lances, killed many Germans, and took the trenches.

"Here in the United States the use of cavalry will be perfectly normal, and considering the country over which American troops will probably operate, there is no good reason why the preponderance of your mobile troops should not be cavalry."

WAR PAINT.

THE enclosed photograph was taken here at Douglas, Arizona. It may be of interest to those owning private mounts and also to those in charge of public animals. The gray horse wich is half colored is a private mount, the property of Captain C. O. Thomas, First Cavalry.

The solution is put on the animal with an ordinary grooming brush or sponge after the coat has been dampened with water to prevent coloring stuff from running down over the dry hair. It changes the horse from a dark chestnut to a yellow



dun, according to the strength. This dye lasts about four or five weeks, a longer or shorter time, depending upon whether the animal is shedding or not. It does not take as long to color a horse as ordinary grooming takes as it is only necessary to go over the animal once in the same direction as the hair lies. It neither injures or alters the texture or feel of the coat.

At four to five hundred paces, the animal is almost invisible. In Arizona or Mexico the color can be put on so as to dry the exact color of the ground. No natural colored animal is as nearly invisible at a distance as animals that have been coated with a coat of " War Paint" in this desert country.

It is interesting to note that when I applied to the War Department for permission to color animals experimently so as to be ready to do so in case of war during 1905, it was dis-

approved on the grounds that the Q. M. General had no paint on hand for that purpose.

It would be almost impossible for a sniper to shoot horses colored in the way that it has been done in the First Cavalry corrals on the border, because an enemy would be unable to see them at any great distances.

COLEMAN NOCKOLDS,
Veterinarian, First Cavalry.

WHEN THE HORSE WAS A DWARF.

(JOHN BURROUGHS, in *North American Review.*)

THE variations which lead up to the formation of a new species are so insensible, they stretch over such a vast period of time, that their universal value from generation to generation is and must be very slight. Take the case of the horse, for instance:

The development of the horse seems to stretch over a period of at least 3,000,000 years, or from the eohippus of Eocene times, an animal less than two feet high, and probably weighing less than 100 pounds, to the horse of late Tertiary times, the pliohippus, much like the superb creature we know today, five feet high, and weighing 1,000 or 1,200 pounds. If this animal increased in height only one-quarter of an inch in 10,000 years, he would be six feet high in less than 2,000,000 years.

So if we allow him 3,000,000 years to develop in, his increase in height must have been even less than one-fourth of an inch in 10,000 years. Think of it! Our horse of today might be increasing or diminishing in size at that rate and the fact never be noticed during the whole period. In weight the same: one-eighth of a pound in 100 years, and he would weigh 14,000 pounds in less than 2,000,000 years, a rate of increase that our scales would hardly detect in a century of time.

The transformation of the other animals have probably been equally slow. Science would feel safe in saying that a flying fish never becomes a bird, but can we conceive how slight the change would have to be in every 1,000 years to bring it about in geologic or biologic times?

SOME BAND TRADITIONS.*

THE regimental band is playing a stirring Military March, on the parade ground. Some association of ideas, traceable to the music, carries me back into the misty past of band traditions.

History tells us that originally the term band, had reference to any combination of instruments for the performance of music.

Up to the Twelfth Century, there had been no attempt at musical organization. There were wandering musicians and in the Thirteenth Century, sanction was given bands of piper's and trumpeter's to play. Guilds were formed and piper kings were elected leaders. There were Union Labor Leaders, even then, for each Guild member was pledged "not to play, or accept any engagement to play, unless he was a member of the Guild." The first Guild was formed in Vienna in 1228. One hundred years later it was placed under the control of the Austrian Government. The instruments used were fifes, flutes, bag-pipes and drums.

In the middle ages, there came social status. The trumpets and kettle-drums were only for nobility. Laws were passed, forbidding bands of more than five pipers, to play for ordinary citizens. A full band only played on civic or religious occasions. Music was learned by ear, and had not been put into writing.

In the Seventeenth Century, music was noted on paper and tuned into keys. In the Eighteenth Century, music was separated into four great groups, one being the Military Band

*Reprinted from the Cablenews—American, January 23, 1916.

of fife, bugle, and trumpet. Military Bands are inseparably connected, from ages past, to the present day, with the life of the soldier. Every ancient nation had its music and national songs.

A great man once said, "I care not who makes the laws of a nation, so I can make its songs." Tradition has assigned the strident music to men of war. Ancient songs told of great victories and valorous deeds. The Spartans charged their enemies with the song of Castor; the Romans, went to battle with trumpets and horns; the Germans had drums, flutes, and symbols, while France had minstrels accompany their troops with small violins and bag-pipes.

In the Eighteenth Century, the Cavalry trumpet made its appearance, and in the same Century, France passed a law, giving to each regiment a band. Bands began their development in that Century, that has brought them to their present high efficiency.

The band leader became prominent, as a great factor in band progress, and famous leaders added luster to musical history, down to and including the present time.

Bands have furnished innumerable examples of heroism on the battle fields, and in great crisis of civil life.

Within recent years, who can forget the old Seventh Cavalry Band, following the gallant, ill-fated Custer, playing the regimental tune of "Gary Owen" into the very jaws of death.

From the great conflict on European battle fields comes the strain of Tipperary and The Watch on the Rhine. In the last somber moments of the sinking *Titanic*, we have the inspiring fact, that the seven members of that immortal band, numbering as many nationalities, as men, and proving that heroism knows no one nation, met their fate bravely, playing for the encouragement of the passengers and crew. The sounds of gay dance music, changed into solemn comforting hymns, the *Titanic* band was faithful to the end, playing on as the dark, cold waters engulfed them, "and their tired eyes beheld coming out of the darkness, a celestial radiance;" and the ears heard Heavenly music, that began where their music ceased.

The bands-man is a hero, with no poet to chant his praise. His task has ever been a thankless one. He plays the march for

the wedding, and the dirge for the dead. He is upon the far flung battle line, armed only with the trumpet. In every crisis he must remain at his post, that those in danger may go to safety.

In long periods of time citizens have the golden opportunity to show their appreciation of a band or leader in whom they have reason for civic pride and gratitude. When such an opportunity comes it is hoped it will receive enthusiastic response.

C. S. S.

INFORMATION ON TRENCH WARFARE.

TWO general methods of attack have been used. One may be described as the attack with unlimited objective, the other as the attack with limited objective. In the first, the attacking troops go right on over the enemy's first and second lines and push the attack as far as possible. In other words, they go on until exhausted. This was the method used in Champagne; and although the French attack so nearly broke through, that it was a question of only one weakly held line of German trenches the French troops were so exhausted when they reached this point, that the men had not strength enough to go over the wire. The commander of the supports had orders to wait until he received word from the commander of the attacking line that he was held up. Owing to the difficulty of maintaining communication this word was not received for over twelve hours; in this time, the Germans were enabled to reinforce the line and when the supports came up, they were unable to get through.

The other method of attack with limited objective has been favored by the British. The troops are sent forward in successive waves, each with a distinct objective, which they consolidate and hold as soon as taken. The first line, for instance, attacks and consolidates and holds the German first, or first and second

line trenches; the next wave of troops comes over and holds on to the next line of German trenches, each successive wave doing the same.

There is a great deal to be said in support of both methods, but it is believed the method of unlimited objective will be adopted.

In preparing for the attack, it is absolutely essential that everything be worked out in the utmost detail, each man must know exactly what his duties are when he reaches the enemy's trench. A certain number are told off as "bombers;" others are working parties to reverse the parapet; others to build obstacles in front of the reverse parapets, and on the flanks of the attack in the trench. Others are to act as sentinels in trenches, others as listening posts and scouts in advance of the trench, etc. It has usually been found that when a captured trench has been properly protected by listening posts and patrols in front of it, the Germans have never succeeded in recapturing it by counter attack. It is only when these points have been neglected that the Germans have been able to reach the captured trench and deliver a counter attack with a certain amount of surprise, that they have been able to recapture the position.

There are a number of different formations for the attack, but the following may be taken as representing the normal. Assuming the attack to be made by one battalion—one or two companies would form the attacking line followed by supports and reserves as laid down in the text book. The attacking line would probably be composed of four lines at an interval depending on the amount of front to cover. The governing consideration in this respect is to obtain a fire line of about one man per two yards after reaching the enemy's trench. The distance between successive lines of the attacking force is generally taken as between ten to thirty yards; the second line may be about ten to fifteen yards behind the first line; the third line would be twenty to thirty yards behind the second line; the fourth line would be ten to fifteen yards behind the third line. The grenadiers and machine gunners might come forward with any of the lines, but would probably be with the third or fourth line, and the machine gunners even be in rear of them. Local conditions would have to be dealt with.

Skeleton equipment is carried in the attack, *i. e.*, equipment without pack; the pack being left behind under guard.

In the defense of the trench, the most important thing is to maintain an intense fire on the attacks during their advance. This is generally over such a short distance that marksmanship counts for very little.

Stores of ammunition are maintained at frequent intervals along the trench.

If the trench is lost, a counter attack must be delivered at once by the troops in rear. The responsibility of the counter attack devolves in most cases on the company commander in support.

The batteries covering each section of the front are in direct telephone communication with the company commanders holding that section, and also with battalion headquarters. The company commander would notify the battery commander of the moment he intends to launch his counter attack, and they would cover accordingly. The field batteries for ordinary purposes act under the orders of the battalion commander. The heavy batteries under ordinary conditions, if needed, are called through the brigade. In the case the units attacking side by side, if one partly is held up, the other must be prepared to bomb down the enemy's trench and other flank, and clear the way for the unit that is held up. There are five machine guns in a battalion; these are of the Lewis type and are mobile.

It has become customary before making an attack of any size, to lay out on the ground somewhere in rear, a replica of the enemy trenches, and practice the troops over these, so as to ensure that each man knows exactly where he is to go. This of course cannot be done over lines well to the rear, but has been found most important whenever possible for the front and support lines of the enemy.

Control during action has been found most difficult to obtain. The noise is terrific and once an attack is launched, communication is next to impossible and results in throwing the control largely on the shoulders of subordinate commanders, such as section and platoon leaders. The platoon leaders lead their platoons during the attack; the company commander follows with the last of the company reserves; the battalion

commander would probably remain at battle headquarters until the attack has made a considerable advance, when he would establish new battle headquarters in the enemy's lines, immediately notifying the company commanders.

Communication under normal conditions is maintained by telephone and buzzer, and it almost always happens that telephone lines are cut by the artillery fire, and then it is necessary to fall back on visual signalling and communication by messenger.

The battalion once launched in the attack is very little influenced by its commander, until the enemy's trench is consolidated.

Reconnaissance: Practically no reconnaissance is possible in trench warfare, except aircraft. Local reconnaissance by patrols is used at night to determine the strength of enemy's wire and possibilities of the terrain. After the first few lines of the enemy's trench are taken, it is most important to have scouts in advance of attacking line to prevent running into machine gun traps.

All officers down to, and including company commanders, are provided with maps, showing enemy's trenches as determined by aeroplane photographs. Battalion and higher commanders have maps showing both their own and the enemy's trenches.

LEADERSHIP.

A Talk to the Non-commissioned Officers of Troop "A" Cavalry, Oregon National Guard.

AT the beginning of the winter season of instruction I want to talk to you briefly on the subject of leadership. One of the most important qualities that enter into the development of a soldier is leadership. The drill regulations mention it very briefly and if you trusted to them alone you might easily get the wrong notion of its value. Officers and non-commissioned

officers are valuable in their capacity as instructors, as disseminators of technical information, but they are doubly valuable as leaders, to whom the men look for moral, social and intellectual inspiration.

No non-commissioned officer can hope to measure up fully to the requirements of his office who is not something of a leader, and who has not learned how to gain the confidence and respect, and the regard of the men under him. Remember that you have been chosen non-commissioned officers because I believed that you had some of these leadership qualities in your makeup. I want to see you develop them more during the coming winter. Remember what leadership means, it does not mean to drive. I never expect to swear at a man as long as I am in military service, and I can permit you no more liberty in that respect. Give your orders quietly and firmly and then see that they are promptly executed.

Your men will soon learn that your quiet commands mean just what the words indicate and they will have just as much force as those of the man who shouts, and swears, and blusters through his work. Never get angry with a man. If you cannot prevent yourself from becoming angry, learn to control yourself so that the men will never know that you are other than in your natural mood. If a man is in the right he does not need to lose his temper, if he is in the wrong he cannot afford to lose it. When it is necessary for me to punish, I try to punish dispassionately, absolutely without feeling, and in the same spirit that a football umpire would penalize a player for an infraction of the rules of the game. The man should be made to feel that the decision was just, that he had it coming, and that no attempt is being made to get his individual goat. The matter should then be promptly forgotten.

I think some of you are neglecting an opportunity in not getting to know the members of your squads better. You should learn their individual peculiarities and make companions of them. Encourage them to come to you when they are in trouble as I do. Above all else remember that you are setting an examp'e for them, not only a military example but a social and a moral example. If you cannot elevate their ideals, at least you are expected not to debase them. If a man

in your squad has a weakness, and you know it, help him to conquer it, don't throw temptation in his way. We are trying to interest young men from good homes in the troop. We must do our duty by them after they are in. I should never quite forgive myself if I thought a man was taught or encouraged in dangerous habits by one of my non-commissioned officers. Do not misunderstand my attitude in this respect! I do not believe that this is a place for sermons and I am not a preacher. The only just excuse for the existence of any military organization is its preparedness as a fighting machine.

But military efficiency according to authorities is made up of four great elements, numbers, arms, training and morale. Morale depends for its development upon the spirit , the character, the feeling, the moral temper, of the men of the command. It becomes necessary then in order to have an efficient military organization, for us to develop the character of each man, just as we develop the skill of each man. Everything which advances the moral education of the men concerns me, and concerns you as well. I appreciate the fact fully that many a "rough neck" has at the same time been a good soldier. I have soldiered with, and learned to respect, many such. But it has been in spite of, and not because of his defects. Don't get it into your head for a minute, nor let anybody else put it there, that a man must be something of a rough neck in order to be a good soldier, for it is not true. The entire influence of the best military experience and teaching is to the contrary, and there are plenty of authorities to be quoted.

On the other hand do not forget that some of our best men may not approach your individual standard of living. Do not overlook the fact that these men possess qualities which you may some day, in an hour of need, appreciate more than you do now. In all probability they can teach you, as much as you can teach them. There is no more discouraging element in any organization than that weak, negative, emasculated type of goodness, which seems to be the peculiar product of our present day civilization. Learn to take your men as you find them and to develop the best there is in them. You will find good and bad in everything human. If you look only for the good you cannot go far wrong.

Now for our instruction program for the coming winter; let me add a word of caution. Some of you may not always grasp the reason for parts of our program which are different from those to which you have been accustomed. Just remember that you are only responsible for learning your part and performing it well. The responsibility for the plan of instruction rests upon me and the Inspector-Instructor. The plan we follow has its special application to our peculiar requirements. It is neither entirely a National Guard nor a Regular Army program. Whatever our experience has been, be it ever so extensive, we can all live and learn. No department of knowledge changes more rapidly than military know edge. A few months absence from troops puts many of our Regular Army Inspector-Instructors out of touch with the details. Officers on detached service go back to the command of companies much behind the time after a year's absence. Do not, therefore, feel aggrieved if things are done differently in this troop from what you were accustomed to several years ago. Do not be mislead into thinking that in administrative details we have to follow the standard set by any other organization. Scarcely any two troops in the army follow precisely the same plan of interior administration. We plan to be a progressive troop, and we are trying to discover the best way to do things. The best way may prove to be a way so new that none of us have ever heard of it before.

There are some things in this talk about which I never expect to have to speak to you again. I believe in just as few orders, just as few lectures as it is possible to have, and run the troop properly. But do not think that my failure to remark an infraction of the rules is any indication of my ignorance of it. I have had the troop with me at meals and gone to bed with it on my mind, every day since I took command. When the sum total of a particular situation is finally sifted it will be found that I have not overlooked much of importance. I prefer to treat every man fairly, and to give every man the benefit of the doubt, therefore my decisions may frequently be delayed. But they will be the less positive when they come.

In everything which relates to the military administration and the discipline of the troop I have a right to expect your hearty coöperation. Our relations should at all times resemble those between the president of a corporation and his board of directors.

FRANK P. TEBBETTS,
Captain Troop "A" Cavalry,
Oregon National Guard.

The Mounted Service

EDITED AT FORT RILEY, KANSAS

OFFICERS' CHARGERS.

THE present punitive expeditions into Mexico have called attention to the occasional disinclination of officers against taking their highly expensive, highly bred, and highly trained chargers into a campaign of arduous field service, exposed to privations which might either result in the death of the animal, or in rendering the mount useless for further military service.

There has been a wonderful change in the past ten years, in the character and quality of officers' mounts. Time was when almost any old plug was deemed suitable, if capable of walking twenty-five or thirty miles a day, under normal conditions of climate. Little or no consideration was then taken of the animals tractibility and of calmness or conrtol under fire; of ability to traverse cross-country obstacles when in active pursuit or retreat, or on officer's patrol; of or training for individual combat with pistol or saber. Nor was any great interest shown in the blood lines of the horse.

Now all this is greatly changed, and credit for the improved sentiment is largely due to the widespread influence throughout the service of graduates of the Mounted Service School, supported by progressive regimental commanders; together with active coöperation by the War Department in

regulations tending to raise the standard of mounts for which officers draw extra compensation.

A large number of officers now own well bred and well trained chargers—the tendency largely going by regiments; and no matter how individual opinions may differ as to thoroughbred, saddlebred, Arab or Morgan blood, as a requisite for intelligence, stamina, and tractability in military chargers, such an intelligently increasing interest is now taken in the subject by our officers that sooner or later we shall be able to approximate to what breeding is best. Opinions will probably always differ however, just as individuals prefer a certain kind of dog or gun or style of architecture.

But the fact that for the first time since the mounted service seriously took up the matter of improved mounts, a campaign is in progress which subjects officers' chargers to many dangerous hardships, makes the requirement of officers riding their own mounts none the less necessary of strict enforcement.

In our opinion this is a matter of regimental regulation and discipline, and regimental commanders should feel such a pride in the field performance of their regiments that no one requisite of proper equipment—be it arms, uniform, instruction, or mounts—should be considered too good for campaign.

To be sure, there is something to be said on the other side: It is out of the question for an officer to insure the life of his mount under war conditions. And if killed or permanently disabled in action, no valid claim lies against the government. Even in peace times, the question of suitable reimbursement for the loss of private property lost in the military service without fault on the part of the claimant under the Act of Congress approved March 3, 1885, appears to be as variable as the proverbial weather-cock. Changes overnight in the office of the presiding officer of the Court of Claims seems to determine whether reimbursement under the statute will or will not receive favorable consideration.

On the other hand, the extra pay granted officers below the grade of major required to be mounted, was authorized by Congress for the specific purpose of meeting the extraordinary

expenses incurred by officers of the mounted service. If expended solely for mounts, horse equipment, and wear-and-tear on riding togs, this extra compensation will, if carefully handled, provide for all necessities. Considering the cost of a first mount as say, $250, the outlay will be covered in about twenty months of extra compensation. And if the useful life of the charger continues for five years after purchase, the owner will have received his initial cost three times over in that period, leaving the remainder of the extra compensation for uniform and equipment incident to the mounted service.

If the officer is a skilled horseman, it is not at all unusual to purchase a well bred training colt for $150—$200, and after several years of intelligent training, increase the animal's market value one hundred per cent.

Under such circumstances the regimental commander has it would seem, every right in the world to demand that his officers purchase high grade horses in the first place, and that these animals be ridden in campaign, no matter what the risk of permanent injury. If the statute had been so worded that the extra compensation *must* be expended on mounts or horse equipment—as was unquestionably the intent of its framers, there would certainly be little hesitation about the expenditure. The fact that Congress was liberal enough to not restrict the expenditure to strictly mounted expenses should in no wise cause our officers to become careless in carrying out the law's intent; and regimental commanders should, it is believed, strictly construe the law in regimental orders so as to not only safe guard the best interests of the government in a legal aspect, but pursue such a policy as will ultimately bring about a splendid mounted efficiency in the regiments which they are doubtless all proud to lead and command.

C. D. R.

FIELD NOTES.

THE following notes and comments have reached the editor from officers in the field, and although not prepared for publication—being contained for the most part in private letters, are interesting and valuable. Each comment is from a separate individual officer and it is hoped that further contributions will reach this department for the improvement of the mounted service and for utilization by the Cavalry Equipment Board.

CAVALRY EQUIPMENT.

"I know you will receive many letters from older and more experienced cavalry officers who are forming conclusions as a result of this campaign at the conclusion of many year's service, but the following opinions are submitted:

"*Officer's Saddle.* Many French officer's military saddles are in use and so far as I can determine, give universal satisfaction. Must say however that most officers still have to use the McClellan.

"*Enlisted Men's Saddle.* Have not had personal experience with the 1912 model but find universal condemnation, not on account of sore backs, because I believe they are little if any worse than the McClellan in that respect. But that saddle has a multiplicity of straps and buckles and accessories, etc., etc. Too many adjustments are required and they don't remain fixed. Men are continually falling out of column to readjust, while entry into or departure from dismounted fire action is slow. The service does not want that saddle.

"But I venture to say that the service, and by that I mean the cavalry officer and soldier, does want the McClellan with slight modifications. (*a*) The pommel of the McClellan model should be higher and possibly wider. After ten days or so our horses began to thin down woefully and the pommel arch settled

to the top of the withers and caused abrasions. Or if we sought to overcome this by adding the bed-blanket, we found the pommel arch too narrow to accomodate the increased thickness. The front end of the side bars could not reach the back, and the withers were made to carry the weight of that portion of the saddle so that bruises and fistula followed. Or, if we folded the bed blanket in rear of the withers abrasions were apt to result. So with the present McClellan the problem is a difficult ne. (*b*) The seat should be made more comfortable to the rider. He now sits on the edges of two hard boards covered with two layers of hard leather. The horse is better off because he has six layers of soft blanket between himself and solidity. Sitting in the present McClellan for one or two or three hours at a stretch becomes a punishment, and the trooper resorts to one or more of the various types of slouching with which we are familiar, and sore backs come. So I was most delighted to see that the Equipment Board was about to adopt the McClellan saddle with a French seat as I feel sure this modification will add much to the comfort of the rider and will obviate the difficulty I have mentioned.

"*Canteen and Mess-kit.* The ideas of the Equipment Board seem excellent.

"*Bridle.* Almost all of us have long since discarded the curb bit and ride on the single snaffle alone. The present bridle adjusts itself readily to this plan. I have seen several combination halter-bridles and they worked for mild-mannered horses but I believe would fail in a deplorable number of instances in the average troop.

"*Halter.* We find the present halter serviceable and generally easily mended with a few rivets or needle and thread that the saddler can carry on his person. But in the end, you may find the rope halter better.

"*Stirrups.* I like the open steel stirrup for my own use but I am sure the trooper wants a hooded stirrup for himself on account of snow, wind, rain, sun, thorns and safety to feet and ankles in close order formations.

"*Saber.* Many of the troopers discarded theirs as soon as possible after crossing the line.

"*Rifle Carrier.* I was still at Riley when the instructors were carrying the rifle on the back and they said it was easy. No doubt it was to a man in the pink of condition on a comfortable saddle, but I know there would be a different impression in the mind of a hungry and half-grown trooper as he tried to ride an ill-trained remount through the mesquite and scrub oak bounding a narrow and rock trail, 500 miles into Mexico. Every pound that we put upon the trooper's back will add to the pressure of his buttocks upon the seat of the saddle and to relieve the agony he will squirm and slouch in a way he dosen't know now. When we left ———, March 21, we left without transportation; and man and horse were loaded chock-a-block with food and grain. We carried a bandolier over each shoulder. Had our rifles been there we would have had to shorten ourselves on ammunition or rations.

"I am in favor of hanging the rifle vertically to the cantle of the saddle and dividing the load to balance. We did that in the ——— cavalry for over two years with excellent results. As now carried, I do not hesitate to acknowledge that we have more lumps on the right than on the left side of the withers. (Rifle carried on near side).

"*Cotton Cloth Bandolier.* Worthless. As I said, we left with a bandolier over each shoulder. We were on the trail of the ——— Cavalry, and when daylight came we began to pick up ammunition in the road. In a couple of days we discovered why. The friction of the bandolier against the trooper's uniform wore holes in the former, and single cartridges or whole clips dropped out to a serious extent. Of course, by day we dismounted to pick up those lost by the troopers in front, but that form of diversion soon becomes a trying nuisance. We soon placed them in the blanket roll or saddle bags. In the former they were not quickly available for combat and in the latter they filled space we wanted for food.

"*Picket Pin and Lariat.* We need them both, especially for those occasions when we cut loose from transportation which might carry picket line—as we did for weeks.

"Lariats too, were cut up to make halter tie-ropes as there was absolutely nothing else obtainable for use.

"*Pistol Holster.* Present model satisfactory and does not interfere with soldier getting clips from his belt.

"There is one thing which I want to mention—intrenching tools. Let us have them. I don't know how many times we will have to intrench, but I recognized the possibility of it several times during the campaign and felt the lack of them. Further than that, if we never intrench, they will repay themselves for their usefulness in camp and bivouac."

THE 1912 EQUIPMENT*

"I am deadly sorry that this regiment has the new equipment. The only thing in its favor is the compactness of the pack. There is no flopping. I think if we can get the Saumur part to fit the back of the horse, and the upper part to be the McClellan or a modification, we can hang all we want in compact form and solve the question."

"*Hobbles and Side Lines.* One thing of great interest is that hobbles are indispensable. I should say, that they *would* be indispensable if a part of the equipment. Side lines, or even one hobble to which the halter-shank could be tied, would answer the purpose. Animals will not graze if kept too close together. If scattered and not hobbled, there is always danger of a stampede."

"*Regimental Records and Property in the Field.* I am certain that we must cut down our plunder. We must, as cavalry do without a single wagon, and be able to live for at least a month on what we carry on the horse and on our backs. This idea will not go down with the older men, who cannot stand the

*Field service brings out all that is good or bad in equipment, organization, supply or training. The following notes, made by officers of different regiments serving either in Mexico or on the border, are printed here as being of special interest and benefit to the mounted service. Most of the statements are from private letters, and hence make no claim to literary style, but are perhaps on that very account, of greater interest. Officers of all grades are urged to make their experience known to the service at large, by forwarding such notes to this department.—*The Editor.*

racket, but the —th and the —th Cavalry are doing right now what I advocate, and they will have to wash and shave and refit when they strike a base. All the forges and bedding-rolls they started out with, are thrown away, and they are still going. I am also coming to Colonel X.'s scheme of doing away with the band. This outfit is a nuisance in the field, and are purely a function of a permanent post. When we go into Mexico (if we go), I shall not take a record of any sort; simply depend on note-books of my own, and those of the sergeants-major. If we need a record, it will be necessary to send back for it to the man I shall leave in charge of property. All this seems radical, but our property is a curse when it comes to taking care of it in the field. It cannot be done and at the same time move and be efficient cavalry, as we should be."

"*Saber Scabbards.* Saber scabbards should be made of steel, and either issued blue or oxidized like the artillery stirrup; or if preferable, issue it nickeled and on taking the field, cover it either with cloth or leather. This latter method was used by the French infantry in 1916; they simply bandaged the scabbard with blue cloth. In Germany, I have seen scabbards covered with leather. Personally, I believe the oxidized scabbards are the best. Such scabbards are used by the Swedish cavalry and both look well and answer the purpose, besides, if my memory serves me, being about two-thirds cheaper than the present scabbard. It may be objected that the black scabbard will wear shiny, but the part where the wear occurs is next to the horse so it will not show. Any other wear would not be greater than that which occurs on the rifle."

"*Rifle Carrier.* My troop has probably used the new method more than any organization since the new equipment has been issued to regiments; that is, they have carried the rifle to some mounted formation practically every day for a year, and the present method of carrying while on the horse, is very satisfactory. It is much more comfortable for both man and horse, than under the rider's leg. The rider has better control of his horse, and, most important of all, when he leaves the horse, the rifle goes with him. There can be no such thing as jumping off when fired on, and allowing the horse to escape

with the rifle, as happened many times in the Philippines to my knowledge.

"The objections to the present methods are two: The snap is awkward to work in the trigger-guard, which might be corrected by changing the shape and style of snap. The rifle hangs too low when the trooper is dismounted, to permit of free-walking. This could be corrected by putting a hook about half-way up the carrier-strap, on to which the trigger-guard could be hooked when the man was working about his horse, saddling or adjusting equipment, etc., without unsnapping the carrier-strap from the trigger-guard."

"*Saddle and Drill Regulations in Mexico.* Stick to the McClellan saddle for troopers, but make it a little more comfortable for the rider. Also, stand up for the old cavalry drill regulations. This will be the most unanimous vote of the cavalry, as a result of this campaign. We have almost abandoned the Cavalry Service Regulations."

"*Rifle Carrier.* Referring to the proposed method of carrying the rifle on trooper's back, published in the last CAVALRY JOURNAL in connection with a memorandum on the work of the Cavalry Equipment Board, I have been thinking the matter over, and have wondered how the swivel on the flat side of the stock will act when a man attempts to use the sling to hold the piece when firing. Without seeing it in action, my guess is that it will make him cant the piece, or at least make it very difficult to avoid doing so.

"The sling-strap will have to be very broad to avoid cutting the shoulder, and the spring-clip on the belt will have to be so made that it will not carry any part of the weight of the gun, as a man has a big pull on his waist now, with the pistol and the belt full of ammunition."

"*Hobbles.* The necessity for some form of hobbles becomes more apparent to me every day. This is the very poorest time of year for stock in this country (Mexico), and grazing will continue to become poorer until July 1, when the rains commence. There is an abundance of long grass, but it has lost all nutriment, and is just as dry and brittle as a dead twig. Near the ground, however, is a little green around the roots.

This is what the animals eat. I tell you this, so that you will realize how much the herd ranges while grazing.

"Corn is plentiful in this country, but there are no oats, and I have heard of no barley. Horses do well on corn, but only after they have become accustomed to it, and it takes some a long time."

"*Picket Line.* It appears to me that every troop needs a jointed picket line of, say, one-inch rope. One of the greatest sources of annoyance is the breaking of p cket ropes. Most troops are now using raw-hide lines, made from green hides. The hide is cut into a single strip about one and one-half inches wide and by moving in a spiral on the hide, you can get them very long. These strips are staked at one end, and by means of a simple revolving appliance at the other end, can be twisted tightly. The best are made by twisting two together."

"*Lariat.* The present lariat is of very poor quality. A great many are being used for halter-shanks, but they are constantly breaking. A great many raw-hide tie-ropes are now in use."

"*Saddles.* The number of sore backs from the new saddle (1912 Model) seem to be more numerous than those from the McClellan. I find that I can carry as much on my French field saddle as anyone can carry on any other, and with greater comfort to me as well as to the horse."

"*Horses.* I think that when the campaign is over, the superiority of the small, short-coupled horse over the larger type will be apparent to all. Even the small, long-coupled horse, seems to be equal to the large, long coupled-horse. The small horse certainly keeps in better flesh."

'*Terrain.* We were operating the other day in the most difficult mountains I have ever seen, and also the most picturesque. I recall one "pasture of ten square miles, necessitating only thirty yards of fencing. That is, it was completely boxed by cañons, except for thirty yards where the fence ran."

"*Saber.* I agree with Captain Hawkins that we should discard the saber. We waste much time in failing to make swordsmen of our recruits. As an accomplishment for officers,

skill in fencing may be commendable. But for the armament of volunteers, the sword or saber is an encumbrance and should follow the lance into the scrap-heap. And all of our soldiers are volunteers."

"*Stirrup.* According to the rumored report of the Cavalry Equipment Board, the cavalry stirrup is to be the steel stirrup or a hooded one.

"For dress occasions a steel stirrup is not objectionable. For enlisted men at all times and for officers in the field or at drill, I am greatly in favor of the wooden stirrup covered with leather, but *without any hood.* The hood has some advantages but it prevents the rider from shoving his foot through. This keeps the foot in one position, and causes pain in the sole of the foot which is easily obviated when the position of the foot can be changed. The greatest objection I have to the hood is that with the McClellan saddle it is a great detriment to the "Riley Seat;" and with any saddle prevents the foot from being shoved through as it should be, at the jumps."

"*Portable Ramp.* We tried the ramp suggested in the last CAVALRY JOURNAL (April 1916), for loading stock, in loading our horses at Columbus, New Mexico.

"Troop commanders refused to use it, stating—

"(*a*) That the slope was too steep.

"(*b*) That only quiet, old horses would enter it, and that time was lost in loading by its use."

"*Campaign Equipment.* The march of my regiment in Mexico was an interesting maneuver in a country where hostilities might begin at any moment. It was very instructive to the members of the regiment. Nothing very new was learned.

"All were, however, impressed with the necessity of using only *new* clothing and equipment in a campaign. Articles which looked all right, soon fell to pieces. If it were possible, nothing which was not new, or at least as good as new, should be taken into the field. A careful inspection should be made of everything before starting."

"*Field Service Regulations.* Our present Field Service Regulations cover necessary information relative to marching, outposts, water, bathing, rations, etc.

"In Mexico, it was found best to kill beef late in the afternoon. Drain the beef well of blood, and then hang it up all night to cool. It was then in fine shape for issue in the morning."

"*Lariat and Picket Pin.* In my opinion the picket-pin is an abomination, and can and should be d scarded.

"The lariat was in constant use in Mexico during grazing hours, and should be retained."

"*Lariat.* Keep as part of equipment by all means. It s light, easily carried, and can be used for many things besides that for which intended getting wagons or animals out of mud-holes improvising shelter, temporary repairs to saddle or bridle, lashing packs on service saddle, etc., etc."

"*Picket Pin.* In present form it is of course the handle of the intrench ng tool. It will pull staples, drive a staple, drive a shoe nail, tw st it off, and c inch it."

"*Coat Straps.* (Cantle and pommel straps). Why not replace these by thongs made of lace leather at a much reduced cost? Neither the thongs or straps are used on saddles unless packed, and after a time in the field the straps are gone and thongs or bailing w re takes their p ace. I think we have too much equipment and that many of the component parts are too expensive. We make too much effort to look well in heavy marching order, and think too little of actual field conditions. Why not try and start with what we are down to when we have thrown away the pretty and unnecessary, and are down to business?"

"*Tie Rope.* The old leather halter shank is too expensive for further use. The present tie-rope of manila twist cord is no good. The horses eat or mouth it, and it soon becomes untwisted, unsightly and unserviceable. It has to be replaced in a short time. Make the tie-rope of woven cotton, like the old lariat or ordinary sash cord."

"*Side Lines.* We are now receiving a lighter edition of the old style side line. They must cost a good deal, and never are serviceable. Many horses are injured by them. The commanding general, First Cavalry Brigade, has issued a memorandum order, in regard to the use of hobbles. These are made of green hide, and the hair may be left on. They are made on

wooden forms of the correct size and proper distance apart, and twisted. The hide dries on the form, and the twist sets." (For memorandum referred to, see elsewhere in this number of the JOURNAL.)

"*Forced Marches.* Although some very remarkable marches have been made by the cavalry in Mexico, the only data at present available which is authentic, is that in regard to the brilliant expedition of the troops under Major Langhorne from Boquillas.

"Captain Rhea's troop covered 215 miles in 80 hours, and 580 miles in 19 days. Captain Kirkpatrick's troop covered about 100 miles less than this. As two of the 19 days were rest days, and the last day involved a march of but 12 miles, the former troop really covered 568 miles in 16 days. The black horses of this troop lost from 60 to 80 pounds each, but regained flesh after a week's rest. The mission of the command was accomplished without a soldier or a horse sick in Mexico, and with but one horse with sore back, caused by a broken saddle.

"Another march made from this command, was that of Mr. Hasbrouck, the assayist of the Boquillas mine, who with a private of the Eighth Cavalry (each with a led-horse), was sent by Major Langhorne to carry a message to Captain Rhea. Frequently changing horses, these couriers rode 53 miles to find the officer, and then returned with him, covering 106 miles in 21 hours.

"*Halter Tie Ropes.* Do not last. Within twenty days there was practically not one left. Lariats same. Seventh Cavalry officer recommend for field officers, a light steel chain, like a heavy dog leash."

"*Bandoliers.* When carried by mounted men soon wear out with great waste of ammunition."

"*Automatic Pistol.* Many accidental discharges; magazine spring too weak to carry magazine loaded for field service."

"*French Officer's Saddle.* Above criticism."

"*Lariats and Picket Pins.* Considered necessary."

"*Halters and Shanks.* We have used over three times our allowance of shanks since we come here, which does not include what we have borrowed or stolen. A rope lasts from three days to two weeks only—a combination of climate and perhaps poor rope. Leather is preferable for shanks, but if we must have rope, make it sash-cord—linen or cotton. This experience is identical with that of troops in Mexico. We have many horses tied with baling wire. Picket lines are as bad. I have applied for dog-chains, six feet long with snaps . * * * The foregoing represents the views of the regiment. We want a halter-headstall of leather, and leather or chain shank:"

IDENTIFICATION OF PUBLIC ANIMALS.*

By Captain JAMES N. MUNRO, Q. M. Corps, (Cavalry),
In charge Fort Reno Remount Depot.

WHILE the officers at this depot have little time to devote to the preparation of professional papers, Mr. E. O. Trowbridge's article on "Identification of Public Animals" in the last number of the JOURNAL is deserving of immediate comment from the standpoint of practicability.

It is easy to understand how the system described by Mr. Trowbridge appeals to the office man. It certainly opens up a field for the compilation of masses of data, largely unimportant, and the accumulation of stacks of waste paper neatly arranged in filing cases and requiring the attention of an indefinite number of clerks. For what? For no practical purpose whatsoever.

There is no doubt that our present system for the identification of animals is faulty, very faulty. It needs simp ification instead of complication The horse, like the saddle he carries or the gun carriage he pulls, should carry his identification with him. Mr. Trowbridge, and the commentators on his article assume that his system does this. It does not. No system which bases permanent identification on a hoof brand will accomplish its object or solve our present problem That fact has been established beyond a doubt by the experience of this depot, if the experience of the service at large is not sufficient. The only purpose for which the hoof brand should be employed is for temporary identification, such as shipping to a depot. It should never be renewed.

*Captain Munro's article is intended as a comment on the article by Mr. E. O. Trowbridge, in the April, 1916 number of the JOURNAL describing an original method of identifying public animals. See also the article on *Identification of Public Animals*, in the JOURNAL for April, 1915, by Major Guy H. Preston, Fourth Cavalry, to which Mr. Trowbridge refers.—*Editor.*

This depot has tried various systems of hoof branding. In an ill-guided moment, it adopted a system consisting of a combination of letters and numbers. Prior to that time, the regular pasture men knew practically every horse at the depot and what his number should be. After the adoption of the combination letter system, while these men knew the animals, they were completely at sea as to their numbers. Mr. Trowbridge's system assumes that a hoof number, once applied, lasts almost idefinitely, and maintains its original sharpness of definition. If either he or the commentators on his system had ever balanced themselves for twenty minutes on the edge of the aperture in the branding chute at this depot, during the progress of a sandstorm and wept involuntary tears, the while continuously violating the 53d Article of War, in an effort to determine whether a particular hoof-brand was EK3 or EK8, or possibly FK3 or FK8, the fallacy of the hoof brand as a permanent means of identification would doubtless be apparent to them. Let them continue this work daily for a week and I know they would. Leaving out the letters entirely, it is almost impossible to distinguish a 5 from a 6 or a 3 from an 8 in a three month's old brand. This is bound to be the case where the animal is in the field or running loose in pasture. The edges of the brand break down, the hoof wears, and if the animal is inspected under conditions where mud prevails, each brand has to be dug out with a pocket knife or anything else that one can lay his hands on. If the hoof wears down so that the lower half of the brand is gone, the complications which arise are evident. These points in themselves eliminate the hoof brand as a permanent identification mark and consequently any system which is based on it.

As stated in the article in question, the present hoof brands consist of three-fourth-inch characters. Mr. Trowbridge believes that these should be made one inch characters. This is correct. They should. But on top of this he purposes to put six of these characters, including dashes, on the animals hoof. With the three-fourth-inch characters, it has been found at this depot, and I presume we do as much hoof-branding as any place in the service, (at least I am sorry for any other place that has to do more) it has been found practicable to put four

characters on the hoof and make them distinct, and no more. Yet here we find it proposed to put six characters on the hoof, each of which is one-third larger than these at present issued. It is a simple matter to sit down at a desk and draw a sketch of a horses' hoof, more or less draughty to be sure and somewhat isometric, and if one is expert with the pen, it is perfectly feasible to inscribe thereon The Lord's Prayer, if one has the patience. But to actually put this inscription on the real hoof with a set of branding irons is a totally different performance, requiring time and rather more patience than is called for with the pen sketch, to say nothing of renew ng this brand every six months at the very least. Simple numbers are bad enough, where one has constantly to deal with 1,000 or more horses but when vulgar fractions are proposed, the senses reel.

Mr. Trowbridge evidently assumes that hoof branding can be accomplished without chutes or any special appliances. A visit to this depot in the branding season would convince him that this is an error. Each individual horse must be driven into a branding chute and shut in there while he is branded through an aperture in the side of the chute. It must be remembered that the depot largely handles unbroken colts which, when purchased have in many instances to be roped and thrown in order to examine them for age. Instead of being much easier and simpler to brand on the hoof than to brand on the back, the latter is by far the simpler and safer, as the operator is already standing above the horse on the running board where the animal cannot reach him, while the man with the hoof brand is leaning through an aperture with the upper half of his body directly in front of the animal where he may be struck or bitten. Remember this process has to be gone through every six months at the very least and then many of the brands have partially grown off. Suppose we adopt the vulgar fraction shown in the illustration. At the end of six months we would find that all we have to identify the animal would be the numerator which would be the same on any number of animals. The only part of the hoof that can be used to apply the brand in the case of the young unbroken horse is about one-third of the entire surface which is directly in front. You cannot

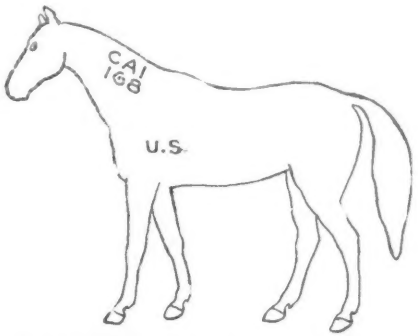
reach round and brand on the side as the side of the chute interferes. The characters shown in the illustration in Mr. Trowbridge's article are presumably one inch. It must be perfectly evident to anyone who examines the illustration that they are not drawn to scale nor do they begin to cover the space that they would in practice. Characters bearing the same ratio to the size of the hoof that those in the illustration do, would be illegible when reduced to a brand. But the point is that they are not permanent, and instead of precluding duplicates, as one commentator remarks, they open up a wider field for duplication than ever.

Mr. Trowbridge's idea with reference to the Remount Depot is right in principle, although at present our depots differ widely from breeding farms. There is no breeding at all. Our remount depots at present are the same as our arsenals, depots of supply, nothing else. If then we are going to give a letter designation to depots, why not give a letter that means something and not resort to mysterious fractions? Why not R for Ft. Reno, K for Ft. Keogh, and F for Front Royal, or if Front Royal feels slighted, make it F. R. How many men or officers could remember wether A—999 stood for Front Royal, or Ft. Reno, whose symbol is 999—A?

Just what is important as a permanent record of the service horse? What do we need to know about him? Does it make any difference whether he was shipped in an A. P. X. car, an open stock car, or a box car? Of what permanent value is the order by which the board was convened, the number of the bill of lading, where he was shipped, or, if from a contractor, from whom he was purchased? What sort of permanent data is necessary to the purchasing officer? None, absolutely. What is necessary to the remount officer who may be also the purchasing officer? None, that need follow the animal to his organization. The service horse is a part of the soldiers equipment just as is his rifle or his saddle. Does the arsenal make a descriptive list or card of each saddle it ships to an organization with a record of the date it was completed, who put in the last stitches, the kind of car it was shipped in, etc.? Certainly not. Neither should the remount officer with the horse. He has something else of more importance to do.

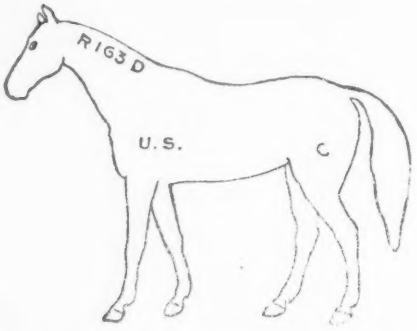
The permanent record or descriptive card of the horse should begin when he reaches his organization and the data for all of this he should carry on his hide. There is very little in the way of permanent record that should interest us with the average service horse. We wish to know his age at time of purchase, his price, possibly, though this is not vital, whether he is a Remount Depot horse or a contract horse, h s classification for service, Cavalry, Artillery, Riding or Draft, who purchased him, and beyond this his record must be kept up in his organization. Now all the above data can be indicated on the animal with a few neat brands. There are those, of course, who object to brands, but we brand the horse "U. S." at time of purchase and think nothing of it. The service horse is for service, not show purposes, and it is a matter of opinion whether or not a neat, small brand disfigures the animal or not. In any case the service horse is for utility, and if we must sacrifice something, let it be appearance.

Now if the purchasing officer, at date of purchase, brands the horse "U. S." and then applies a brand which indicates that he was a contract purchase, of a certain year, of a certain numbered contract, with his own symbol, we have everything required except his classification and this need not be applied until he reaches a remount depot or his organization. This is perfectly simple. Suppose we put it on the near side of the neck high up where the mane will cover it when trained on that side. To what can we reduce this brand? Suppose we let "C" stand for contract, 16 for the year in which purchased, 8 for



A CONTRACT HORSE AS HE ARRIVES AT A DEPOT.

his age, A for the purchasing officer's symbol and 1 for the number of his contract. We may brand this "C168A1," or $\frac{\text{"CA1"}}{168.}$ This reads that the horse was bought under contract in 1916, aged eight, purchasing officer was "A," his symbol in the office of the Quartermaster General, and was purchased under "A's" contract No. 1 for that year. If the horse was a young remount, then replace "C" by the remount depot's symbol, thus R163D, horse purchased by the Ft. Reno Depot in 1916 at three years of age by "D," the purchasing officer's symbol. Let the remount depot use any system it desires to keep track of the horses while they are at the depot, but take away from it and from every purchasing officer the permanent descriptive list. Now as to price, if we wish to burden ourselves with the price of



A CAVALRY REMOUNT AS HE LEAVES THE DEPOT.

the individual horse. Any horse purchased under contract has his price fixed thereby. All animals purchased under this contract cost the same. The brand gives the contract, hence the price can be ascertained or it might be published in an order giving the price of all horses so purchased for the year. We publish in orders the price of ordnance stores form time to time and of uniform clothing, why not of public animals? An organization commander on receipt of a shipment of remounts could refer to the order for the year in which they were purchased and enter on their descriptive list the price of each. If the horse is a remount depot purchase, then his price for that year is fixed in the authority to the depot for that year's purchases. Besides all this, we carefully figure out annually what we are pleased

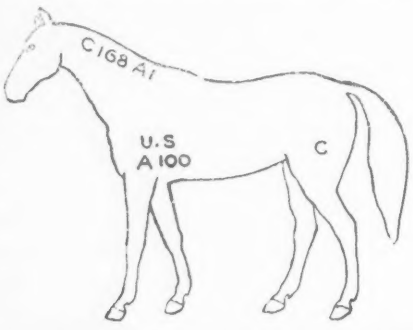
to call the average price of horses for the year. Why not let this price then govern for all horses purchased during that year and if an animal is lost drop him at that price. Nobody is out anything. What difference does it make whether a service horse cost $145.00 or $147.50? The average price for the present year is $141.20. Why not call the price of each horse purchased during the last fiscal year $141.20.

Under this system, the purchasing officer and the remount officer would be able to give all their attention to their proper functions. The horses to them would simply be so many Cavalry, Artillery, Riding or Draught horses.

If it is considered necessary to classify the animals when purchased, then they can be branded with a C,A,R, or D, on the near hip or above the U.S. or elsewhere. This can be left till they reach a depot or till they are assigned to an organization. Let us take a concrete example and see the difference in the working of our present system, or that proposed by Mr. Trowbridge, and a system based on body brands and no descriptive list. On Saturday evening the 11th of March, the Ft. Reno depot received a telegram from the O. Q. M. G. to ship 391 mature cava ry and riding horses to the depot quartermaster at El Paso and directed that so many be assigned to each of some nine or ten regiments. On Sunday morning, both officers and the rider force rounded up the mature, broke pasture and had the animals in the depot inside an hour. These animals were ready to be loaded. Had the train been on the track they could have been on their way in three hours, giving liberal allowance for delays. But no, that couldn't be done. Each animal had to go through the chute, have his hoof brand dug out and checked up with his descriptive list. Finally he had to be checked into the car and given an assignment to a regiment. Instead of this shipment of horses getting off as it should have by Sunday noon, it was Monday evening after two days of strenuous work that the little train of eighteen cars finally moved out. Were any errors made? Of course there were, in spite of the fact that there were two officers and three clerks at work all the time. How perfectly easy it is for one to mistake the letter C for example, for D, or E, or G, when called out from a distance of several feet with a gale of wind blowing.

But this is not all. In order to rush the shipment and help disentangle the horses at the other end, an officer was sent with the train. He wired ahead the hour of his arrival when he was sure of it. This was the first intimation that El Paso had that these horses were coming. When the shipment arrived, no one knew where the horses were supposed to go and a wire was sent to the department commander for instructions. When these instructions came, the animals were assigned to entirely different regiments from those originally designated and in different numbers. Result, the officer in charge of the shipment had to wrangle over that entire lot of horses as best he could, without the conveniences of the remount depot and assisted by inexperienced clerical help. Hoof numbers of course were hopelessly confused. The depot does not know to this minute where its horses went to. Nor, as a matter of fact, should it be concerned with their ultimate assignment.

Suppose when the depot quartermaster at Ft. Reno received that wire a system such as I have outlined had been in operation. All in the world he would have had to do was to round up his mature broke pasture, a matter of an hour, run them into the shipping pen and, if the cars were set in, begin to load cavalry horses, not numbers 261, EK5, 987, etc., but simply mature cavalry horses. It takes five minutes to load a car, as we found by trial. There were eighteen cars. Allowing for switching and spotting, that shippment could have been out by midnight Saturday night, instead of Monday evening. When it arrived in El Paso, the failure to find the assignment of the



A CONTRACT HORSE AFTER ASSIGNMENT TO AN ORGANIZATION.

animals the same as when shipped would have mattered not at all. Here were 391 horses Assign them where they are most needed. The depot drops them and they go to their organizations with their identification on their hides, except regiment and troop. Alright then, how shall we put this on? Perfectly simple. The animal still has another side to his neck, another shoulder and another hip, besides other waste areas that may be utilized. I am not going to advocate any particular brand for this purpose but there are a number of ways to do it. One is, to give each regiment a letter as "A" for the First Cavalry, and give each troop a hundred numbers "A" Troop to have the numbers from 1 to 100; "B" Troop, the numbers from 101 to 200, etc. Perhaps a simpler scheme can be devised but this will do to illustrate. The near shoulder still has nothing but "U.S." on it. Immediately under this could be branded A100. That horse then is No. 100 in "A" Troop of the First Cavalry.

To require a purchasing officer to enter all the data proposed on a descriptive list to be forwarded to an organization is perfectly absurd. If he is buying under the stress of urgency, he has not the time for this. Where an officer is buying at the rate of from 100 to 300 horses a day (and the latter record has been made for days at a stretch by foreign officers), where can he find time to enter up on descriptive cards the data proposed? But a single brand can be put on each animal very readily. As a troop commander I have had to waste precious time fitting purchasing officers' descriptive lists to my remounts and I know what it means. It frequently means new descriptive lists. Many of these descriptive lists were made in such a hurry that no one would ever identify the animal. Some of them were from the Kansas City office. I made up my mind then that no descriptive list should ever be made till the animal reached his organization, and my experience as a remount officer has only confirmed me in this opinion. Suppose the Allies had inaugurated such a system as that proposed prior to the present war. What would have happened to it? It would have been abandoned long ago. It is useless to adopt any system that will not stand the test of campaign. Foreign armies long ago saw the necessity of treating the service horse as they would any other

piece of equipment. In the British remount system today a horse is simply a horse till he reaches his organization. At the remount depot he is a cavalry horse, an artillery horse, a draft horse, or a riding horse. The remount officer does not concern himself with descriptive lists; neither does the purchasing officer. The purchasing officer may designate the animals he purchases under certain circumstances as cavalry, artillery, etc., but ordinarily this is done on the arrival of the animal at the remount depot.

There is a vast difference between keeping a record of animals bought and shipped at once to their destination, as is the case with an office like Kansas City, handling a thousand or more constantly changing animals. The hoof brands used by the Kansas City office work very well for their purpose, which is temporary identification. The trouble with these brands is later, when the Kansas City office has forgotten about the animal and dropped him from their records.

It is time we looked ahead and began to deal with our profession in a larger sense. We have before us the best possible object lesson—the European War Such a deluge is coming on us in due time. If we are not prepared to deal with war material in enormous masses, promptly, we will fail. For years we have been dealing with a toy army and wedded to a system of involved paper work. We have reached the point where we believe that a mass of carefully arranged papers filled largely with useless data, means efficiency When our trial comes we will be dealing, not with horses by the thousand, but by the hundreds of thousands. Why the officers commenting on Mr. Trowbridge's article have not seen this, with the example of foreign officers before us daily for nearly two years purchasing horses by the tens of thousands, is a mystery to me. A dead record of these horses, such as is suggested by Mr. Trowbridge, would swamp the entire clerical force in Washington. After all, why a dead record? What possible value is the dead record of a horse? This office has dead descriptive lists sufficient to fill an escort wagon, though the depot has been in operation less than ten years. Of what use are they? Why any record of animals for this depot, except the animals actually present.

After one year's experience at this depot, it is perfectly evident to me that my time and that of my assistant is largely wasted in useless paper work, much of which applies to the permanent descriptive card of the horse. If this card originated with the organization to which he is assigned, an immense amount of time and worry would be saved to everybody for more important duties.

A DEFENSE OF THE SABER.*

By Second Lieutenant GEORGE S. PATTON, Jr., Eighth Cavalry.

THE incidents of the present campaign in pursuit of Villa, have led many cavalry men to reagitate the question of dispensing with the saber as part of our equipment.

An analysis, however, of the peculiar circumstances and conditions which have attended our movements in Mexico, does not seem to warrant the conclusion that the saber has played its part in the wars of the future, and must be relegated to the functions of the pruning-hook and the plow-share.

Under the ordinary circumstances of war between civilized nations, the first duty of cavalry is to discover the movements of the chief columns of the enemy, and at the same time to prevent the hostile cavalry from learning the whereabouts of our main body. To accomplish this, its dual mission, it must defeat the hostile cavalry and must do it quickly. *Quick action means the saber!*

In the present expedition on the other hand, there have been only small bands of mounted men, and these, far from attempting reconnaissance in force, have bent every effort to avoiding detection. When discovered, they have invariably fled in all directions after a very brief resistance.

Such tactics have naturally precluded the possibility of mounted shock-action. But to say that on account of certain peculiar and exceptional circumstances which have prevented its use, the saber is now useless, is as far from the truth as it would be to say that the modern field-gun is obsolete because during the present expedition into Mexico not a single shot has been fired by artillery. Witness also, the very erroneous estimate as to the future use of the bayonet, which the special

*Passed by the censor. Lieutenant Patton is at present on duty at the headquarters of the expeditionary forces in Mexico.—*Editor.*

conditions of the South African War at one time gave rise to, and which have now been very emphatically disapproved.

It is certainly well beyond the range of things probable that our nation shall not for all time, confine its military endeavors to the pursuit of small bands of disorganized brigands. Assuredly, we shall yet have to oppose modern armies, fully on a par with our own. Armies imbued with the spirit of vigorous aggression, trained to quick and powerful blows, and eager for quick results. If with fire action alone we attempt to meet the cavalry which will precede such an army, we will be made helpless and immobile, and will not fulfill the duties of screening and of reconnaissance for which we have been primarily created. Truly, a saberless cavalry in the face of such foes would be like a body without a soul. It is the saber and the hope of some day fleshing it in an aggressive enemy, which gives to cavalry the dash and initiative which has made history on many a field, and has inscribed so many historic names on the scroll of fame. Can mounted infantry or troops used as such, produce such men as Murat, Seidlitz, Sheridan or Stuart? No! Even though their sabers may not have drunk deep in every fight, it was the glorious traditions so nobly inscribed by the saber, which gave these cavalry leaders their immortal place in the Hall of Fame!

Before we say that the saber is no longer of use, let us carefully ponder the true story of the European War, when after its termination, all facts are available for consideration and study.

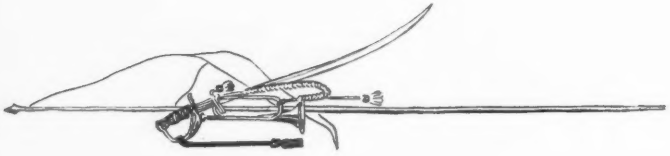
The reports of the great conflict abroad which have hitherto reached this country—written as they are by non-military observers, have at all times dwelt more with the novel, the dramatic and the spectacular incidents of the struggle—the tremendous field guns, the deadly asphyxiating gas, the liquid fire, and the wonderfully efficient aeroplanes. And yet, hand grenades, catapults, the bayonet, and the knife had been declared by all military writers to be ridiculously obsolete.

Another point which has already been mentioned in the press in accounting for the lack of news regarding the tactical use of cavalry in the war abroad, is that war correspondents have rarely had access to the distant and varied fields of cavalry combat; and perforce, they have written about the work of

the guns, whose decisive effects on the battlefield, they can readily observe and appreciate. Yet their incessant chatter has made many, who should know better, think that wars can be decided by soulless machines, rather than by the blood and anguish of brave men.

In this connection the writer is in receipt of two letters from captains of French cavalry, one of whom has been decorated. Both officers state that they have used the saber and the lance, and both have seen them used with deadly effect. If the gallant infantry in the trenches dare to come to hand-grips in spite of deadly gas and flame, surely the equally brave men in the saddle can and must brave the opportunities for close work with the saber.

On account of the magnificent distances which obtain everywhere on the American continent, our future wars will never be confined to the trenches. And if we allow our sabers to rust in the scabbards, many a glorious opportunity will go a-begging for want of that fierce desire which has been the heritage of the cavalry man of all ages, to close headlong with the enemy—a desire which the use of the saber, and the saber alone, can develop and maintain.



JAPANESE MOUNTED SERVICE SCHOOL AT MEGURO.

THE buildings and riding rings cover an area about 800 yards long and 500 yards wide. The buildings are arranged in an irregular horseshoe shape with the entrance gate in a wall extending across the open end of the horseshoe In the center of the area is a ravine thirty or more feet deep, about fifty yards wide and 200 yards long. In this ravine have been constructed a course of low jumps—none more than two and one-half feet—and a trail up the steepest slopes with a ditch at the bottom.

The buildings consist of an administration building, recitation halls, barracks, post exchange and amusement room, guard house, stables and riding halls. The buildings, except the administration building which is of stone, are wooden and of rough construction. It is the intention of the War Department to move the school to Narashino.

The personnel is made up of student officers, student non-commissioned officers, instructors—both commissioned and non-commissioned, and the school squadron composed of picked soldiers from all the cavalry regiments in the service. In addition to the above is quite a large force of civilian employees who do practically all the orderly work around the buildings and stables, except in the barracks of the school squadron.

There are about eighty student officers and thirty-two student non-commissioned officers. Each of the twenty-seven cavalry regiments sends one officer a year, the thirty odd artillery regiments do likewise, and the remainder come from the Army Service Corps. No infantry officers attend. All the non-commissioned officers come from the cavalry.

The course is eleven months, and from the twenty-seven cavalry officers five are selected each year to remain for a

second year's work, with a view to detail as instructors. One of the present instructors is a graduate of the German School at Hanover.

In the instruction of non-commissioned officers in bayonet fencing, the arm used is a wooden rifle and bayonet with a pad on the end. The men wear a padded glove with a plastron which protects the neck and shoulder. Below the plastron, they wear a wooden, barrel-like abdomen protector. No masks are worn. The positions and movements of the exercise are much the same as those laid down in the U. S. Bayonet Manual.

The old Japanese fencing exercise is still kept up For this fencing the saber is made of strips of split bamboo bound together, and the handle is long enough to admit of grasping it with both hands. Ordinarly, however, only one hand is used. The men wear the same uniform as for the bayonet work, and in addition a heavily padded helmet and mask The men seem to enjoy the exercise, and enter into it with much vigor uttering a peculiar cry each time a blow is struck or received. These cries are a regular part of the exercise, the theory apparently being that they add to the dismay of the enemy.

The barracks of the school squadron is a rough wooden building without running water or other convenience. The squad rooms are small, only large enough for one squad of eight men. The bunks and arrangement of clothing and equipment are much the same as in the U. S. service. The carbines are kept in racks, but are not locked up The arms of the cavalry soldiers consist of a saber, bayonet and carbine. The saber is curved and resembles the old U. S. model saber, except that it is three or four inches shorter The bayonet is about eighteen inches long and an inch wide at the hilt. It is double-edged and has a chisel point. It is fastened at all times to the carbine, just under the muzzle, and, when not in use, folds back into a slot in the hand guard, being held in place with a spring catch. It looks like a very serviceable weapon, and the method of carrying it appears excellent. The carbine looks like an excellent arm. It is of a small bore, about .25, and judging from the height of the rear sight leaf for a range of 2,000 meters, must have a high velocity and flat trajectory. It is loaded with a clip containing five cartridges, and has a

bolt action. It differs from the Springfield in having the entire breech mechanism enclosed in a tubular case, so that the only visible movement in operating is that of the bolt which travels in a slot. The rear sight is of the folding leaf type, and only the open sight is provided. There is no lateral motion to provide for windage. The front sight is set between two protecting studs evidently to guard against breaking or bending, and each carbine has a brass muzzle cover. The carbine is about three of four inches shorter than the U. S. service rifle, but about as heavy. This is due to the bayonet and to the size of the wooden hand guard, which extends to within one-half inch of the muzzle, and is larger in diameter than would seem necessary. The stock has the half pistol grip.

Next to the barracks is a small building used as an amusement room and post exchange.

There are five covered riding halls about 100 feet by 50 feet. The walls extend only about two-thirds of the way from the ground to the eaves, the upper third being open. The floors are sand. The work of the first year officers consists of exercises at the walk, trot and gallop; halting, backing and starting, changing leads on small circles and haunches in and out. The movements are executed with care and precision. The five second year men go through the same exercise, except that their work is almost entirely at the canter. In the open riding rings, sections, both of officers and non-commissioned officers, do much the same work as is done indoors. In the course for non-commissioned officers, most of the horses jump freely, and there are few refusals, but the jumps are low. The men's seats, and especially their hands are good; the horse is very rarely jerked while in the air. There are several stables, each with stall room for about forty horses. The buildings are wood, with concrete floors. Each horse has a small box stall which keeps him entirely separated from his neighbors. Rope halters are used, and the horses stand on the concrete without bedding. The forage consists of hay, oats, bran, and also whole wheat. Sliced carrots are fed to sick horses. Rice straw is used as bedding. The grooming is done with wisps of straw rather than with curry combs or brushes.

The horsemanship of the students appears to be more mechanical than natural. It certainly shows hard and painstaking work. The positions are correct although constrained and the work is careful. The seat is much the same as the American, although, in the case of the shorter legged men, the stirrup is shortened until the thigh is nearly horizontal. This is due probably to the fact that the shortness of the leg will not permit a proper grip even with a long stirrup. This same shortness of leg probably accounts largely for the general use of the spur in giving all aids with the legs. The hands are generally good. The equipment seems of good quality. The bit and bridoon are used and are of the same pattern as the new U. S. model. The curb chain is worn quite loose. The service saddle resembles closely the polo saddle issued by the U. S. Ordnance Department, except that the cantle is higher and is provided with straps for the roll. Pommel pockets are worn. The saddle is lined with wool and a felt pad is used. The skirt has a small knee roll. A new model saddle which is being experimented with, is almost an exact copy of the new U. S. model saddle. The bars are covered with padded wool.

The horses are of two classes, the country bred, and the imported Australians. It is difficult, however, to distinguish between them in most cases, except by the brand, as most of the so-called country breds have Australian sires and dams. The horses are of about the same size as the U. S. cavalry horse, but seem to be smaller boned as a rule. The Japanese Government in conjunction with the Nippon Racing Club, a subsidized organization at Yokohama, imports each year from Australia a few mares and stallions. These are sent to the Royal Stud and are used to improve the inferior native stock, which is the ordinary cavalry type. The horses for the school come from the Royal Stud, and after one and one-half years in the school are distributed among the regiments.

The general appearance of the horses is good. The shoeing seems very good. The shoes fit well, and the angle of the foot is generally good. Little effort, however, seems to be made to decrease the size of the foot, when a horse

first begins to wear shoes. The feet are generally large and nearly round. As a rule, there seems to be good frog pressure.

The mpression left by the school is one of hard work and honest effort. Every one seems busy, and the discipline is excellent.

CARE OF SADDLE BLANKET.

THE following description, by Captain Brice P. Disque, Third Cavalry, of a certain method of caring for saddle blankets has been submitted to the War Department, and is here published as being of special interest to all officers of the mounted Service.

It has been suggested to me that I describe a manner of caring for saddle blankets which I have followed for several years, and which has undoubtedly resulted in prolonging the life of the blanket from four to six times its ordinary period of usefulness.

I respectfully submit the following for such use as you may desire to make of it:

Several years ago I noticed that most blankets condemned were worn only on about one-sixth of their surface, and occasionally along the edges of the folds. Apparently this was due to the following reasons:

Always folded the same way with the same surface always on the horse's back.

The same surface on top exposed to the wear of saddle, saber, and stirrup strap buckles.

The continuous sweating of the under surface soon rotted it, and made it necessary to keep it washed or have sore backs.

The constant folding the same way every day and frequently, never unfolding them at all, resulted in excessive wear along the edges.

In order to overcome these conditions, I prepared a line around the corral fence about seven feet from the ground and required:

(*a*) That every time a blanket was used it be fully opened out and hung on the line while the horses were being groomed. This treatment thoroughly dried the blanket, took out all creases, and the sun and wind cleaned it better than water.

(*b*) That the blanket be so folded that a new surface (there are twelve possible) should be next to the horse every time it was used.

(*c*) On days when weather conditions made it impracticable to hang the blankets on the line, they were laid, used surface up and open, on top the saddles until the next day when they were refolded.

I found it difficult to know if men were changing the surface daily and adopted the following (see photos 1 and 2, which I have ruled with the six sections which result when blankets are folded):*

(*a*) I had the twelve possible surfaces of the blankets so numbered from one to twelve that the number would appear in the lower, rear corner on the near side.

(*b*) Beginning on the first of each month the entire troop wears the blanket showing No. 1 surface, which is also the one containing troop mark and man's troop number (see plate 3—blanket of Troop D 3 Cav.; man's troop No. 29). On the second of the month every man who turns out mounted shows No. 2 surface and so on until the 13th of the month, when all men go back to No. 1 surface and continue up to No. No. 12 on the twenty-fourth of the month, changing again to No. 1 on the twenty-fifth of the month. (See photos 4 and 5, showing the blanket as worn on tenth and eleventh of month, and on twenty-second and twenty-third of month). If a man is absent from a mounted formation he changes his fold the next time he turns out as though he had been at drill every day. This is necessary in order to know that changes are made by everyone.

(*c*) Blankets are all unfolded and hung on line after each mounted formation. If it is raining, they are folded, wet side opened out and laid on top of saddle until next day, when they are refolded.

(*d*) I frequently inspect the stirrup straps to see that buckles are kept well down to the stirrup and require that there shall be no rust on these buckles.

I believe an inspection of blankets treated in this manner will show that they are softer and smell sweeter than any that

*Photographs not received.—*Editor.*

are not so treated. Furthermore the washing of blankets not only is rendered unnecessary but becomes an evil as our facilities for this are so limited that they are seldom properly washed.

I know from experience that blankets treated as above described will last from four to six times as long as the blankets treated in the average manner. I am wearing on my horse a saddle blanket which has been in constant use since 1903, Photo 6 shows a blanket in use less than a year with one surface only worn out through sweat and rot as well as worn places where high, rusty, stirrup strap buckles have been wearing in the same place.

COMMENTS.

First Lieut. L. R. Partridge, Third Cavalry: "I have examined the blankets of Capt. Disque's troop and found them in far better condition, as relates to cleanliness and pliability, than any such large collection I ever saw I am in favor of so caring for, and using, saddle blankets."

Capt. H. S. Hawkins, Third Cavalry: "Captain Disque's scheme seems to me to be a good one. Some scheme of this kind should be used, but it is not recommended that this particular scheme be required. It might be wise to require troops to change surface of the blankets which rests upon the horse at least once a week. But the minutiae should be left to the troop commanders."

Capt. J. D. Tilford, Third Cavalry: "I believe this idea of Captain Disque's to be an excellent one I have examined some of the blankets of his troop and found them in very good condition after quite long service."

Col. A. P. Blocksom, Third Cavalry: "In my opinion Captain Disque's method is preferable to those used in the past and to a large extent at present. I cannot find that the 'Cavalry Service Regulations' prescribes any particular method of folding the blanket, Circular 47 WD July 31, 1909, directs that when in constant use saddle blankets be washed at least once a month and folded so that the side next the horse will be changed frequently. I believe washing the blanket once a month is injurious. Recommended that some such scheme of folding and preserving the saddle blanket be outlined for the benefit of the mounted service and that responsible officers

be allowed to determine when it is necessary to wash it. I believe the present average life of the blanket may be at least doubled."

Major Alonzo Gray, Fourteenth Cavalry: "I am of the opinion that each blanket should have treatment according to circumstances. As a rule the dry clean is sufficient. Occasionally washing is necessary. I am thoroughly convinced that the best results are obtained by refolding every day so that each of the twelve wearing surfaces gets an equal amount of wear. Where close attention has been paid to the subject of refolding, excellent results were obtained. Where refolding has been neglected the results are unsatisfactory whether the system is wet or whether it is dry cleaned."

Lieutenant Colonel R. A. Brown, Fourteenth Cavalry: "This system of caring for the blankets was carried out by the following method:

"Troop "K" Fourteenth Cavalry tried the system by having one-half the troop follow the old system and the other half the daily refolding method

"Troops "I", "L' and "M", Fourteenth Cavalry used the refolding system throughout the entire troop.

"All four troops spent an average of about two months of the period in the field. During this service the troops were divided into small groups and extended over considerable distance.

"The trial was carried out in good faith, a matter I made sure of, by examination from time to time.

"I am satisfied that refolding every day will prolong the life of the blanket very considerably, and this method offers no difficulties in garrison in a dry southern climate. I am also satisfied that the method is impracticable in the field or in a cold northern climate where there is considerable rain.

"I do not recommend that the daily refolding method be prescribed by orders as the one method to be fo lowed. I do recommend that it be prescribed as a method to be followed when practicable in garrison, conditions of climate and weather permitting.

"Troop commander should be g ven discretion in using the two methods in combination with a view to keeping the

blankets n proper condition and securing the maximum amount of service."

Captain Fitzhugh Lee, Third Cavalry: "One-half of the saddle blankets of each troop of the Third Squadron, Third Cavalry, were treated as outlined in letter of Capt. Disque, April 24, 1915, the other half were cared for in the old way, viz: Completely spread out and well dried after use, refolded and hung in saddle rooms.

"There has not been any appreciable difference in the wear of the two sets of blankets after this six months test.

"Possibly this test would have been more satisfactory had the four troops been equipped with new blankets at the start.

"I do not consider this scheme of Capt. Disque's practical, it is difficult to carry out properly and no more satisfactory than the method heretofore employed in this squadron, viz.: At the end of drills, marches, etc., all blankets are opened out and carefully dried, refolded on fresh surfaces under squad leaders, hair and dirt accumulations brushed out when necessary, blankets only washed in individual cases when needed.

"It was the old method of folding blankets so the troop number and stencil marks should be displayed in the same place day after day that wrought havoc to blankets. I do not believe many organizations adhere to this harmful scheme now-a-days."

Colonel J. G. Galbraith, Third Cavalry (attached): "It is believed that inspect'on will disclose whether the blanket receives proper care, and frequency of inspection is recommended as the best means of securing good results.

"If the troop commander is allowed to regulate the care of the saddle blankets, he can be held responsible for results, whereas if he is ordered to follow the method of Captain Disque he can blame the unpractical method if the results are not satisfactory.

"The efficiency of troop commanders is judged by the condition of the equipment of their organ zation and the cost of maintenance. The toleration of lax or wasteful methods will tell against the captain. In each instance of neglect the captain or the squad leader should take suitable corrective measures, according to the circumstances of the particular case.

"I am of the opinion that the methods should be left to the troop commanders."

Captain Harry N. Cootes, Thirteenth Cavalry: "About July 10th I received a copy of Captain Disque's letter with diagram showing the various suggested number of folds and on August 1, 1915, the test was begun.

"The troop was divided into two platoons, one platoon using the Disque method, the other platoon the old method.

"The blanket is numbered from one to twelve inclusive, and was changed daily, and orders were given that each numbers corresponded to a day of the month, the number on the blanket corresponding to the day of the month and this was verified at drill by the squad leaders.

"After the number twelve was used the blanket was turned back to No. 1, and continued through all the numbers in the same manner as before.

"After a careful comparison of the blankets I find that those turned daily are in a much better state of preservation than those of the two squads who followed the old method, and will last a much longer time than those which are not turned. In fact they should last easily twice as long.

"The scheme is an excellent one and in my opinion should be adopted throughout the army.

"I suggest that if adopted the numbers on the blanket be woven in them, for if marked by paint they become dim and not as sightly. They could easily be woven in the same manner as the present U. S. which is on the blanket now used.

"As used in the Disque method, the folds are used as bearing surfaces for the saddles, not over three times during the month, and consequently the wear and tear is materially lessened."

Captain O. W. Rethorst, Thirteenth Cavalry: "The following report is rendered relative to a test made in this troop, of a scheme to prolong the serviceability of saddle blankets.

"The test was conducted during a period of five months begining about the first of August, 1915.

"It has been found that the blankets that were folded in such a way that a different surface was placed against the horse's back each day are much less worn and are more serviceable

today than those that were not so folded. The wearing due to the cincha and stirrups, the principal wear of the blankets, is distributed over the twelve surfaces in the first method and of course prolongs the serviceability.

"It is believed unnecessary to have the blankets folded so that a different surface is presented daily. It is believed the object would be accomplished by having the change made weekly."

Major Frank Tompkins, Thirteenth Cavalry: "I enclose herewith report by the commanding officer's, Troops "L" and "M", Thirteenth Cavalry, relative to the scheme of Capt. Brice P. Disque, Third Cavalry.

In order that this test might be of real value each of the above mentioned troops were furnished with a complete set of new saddle blankets, and the test started August 1, 1915. One-half of the blankets in each troop were cared for by washing according to the method in general use in the cavalry service, the other half of the blankets in each troop were cared for in the manner recommended by Capt. Disque.

"It is my opinion that the method of caring for the saddle blankets prescribed by Capt. Disque is much superior to any other method now used in the cavalry service, as it not only adds at least fifty per cent. to the life of the blanket, but it also keeps the saddle blanket soft and pliable, and is, therefore easier on the horse's back than when the blanket is hard and stiff, and in addition it presents a better appearance for a greater length of time than when washed and the folds are not changed daily.

"I recommend that the number on the saddle blanket be woven in, and that the method of caring for saddle blankets by Capt. Disque be made mandatory in all its particulars."

Colonel H. J. Slocum, Thirteenth Cavalry: "There are several reasons why this Disque scheme is believed by me to be a good one. Not only saves the wear and tear on blanket but decreases the possibility of any foreign article, such as small stick or stone, being picked up by the blanket when it is on the ground, and then get next to the horse's skin under saddle or equipment injuring animal's back."

NOTES ON CAMPAIGNING IN MEXICO.

THE Mounted Service Section of the CAVALRY JOURNAL having issued a call for notes and suggestions from those who have recently been south of the line, the following rough notes are submitted for what they may be worth:

Leave your sabers at home. It is true that there is a bare possibility that occasion might arise when they could be used, but we have our pistols and the probabilities of an opportunity for use of the saber is so slight that it will not pay for the extra load on the horse.

Likewise you are better off without your *curb bits*. Horses can water and graze with snaffle bits in the mouth, and whatever advantage accrues from the better control of the horse afforded by the curb bit is more than counter-balanced by the inconvenience of having to remove the curb bit at every halt for watering and grazing.

Troops are almost sure to be obliged, as we did, for about a month, to live on the country and travel practically without transportation. One of the most serious inconveniences of this is the necessity of individual cooking which is wasteful of food and fuel and takes too much time. One must count on frequently being in the saddle for twelve hours and if out of the other twelve the soldier must cook his own meals and care for his horse, he does not have sufficient time to rest; therefore try and carry such cooking utensils as will reduce this individual cooking to the minimum. It is accordingly very desirable that each troop should have one pack mule per troop. The three camp kettles now supplied with the light field cooking (march) outfit are unsatisfactory inasmuch as all three being of the same size and shaped like the frustrum of a cone, they stick together. The same remark applies to the three bake pans also supplied by the Quartermaster Corps.

The old cylindrical camp kettles in nests of three are much better. These are readily packed on a mule and can be used for coffee, beef stew and boiling beans—articles which will daily be on the menu.

The folding canvas water buckets supplied with the new cavalry equipment are a great convenience and are worth while carrying along.

In starting out try and have a full set of extra fitted horseshoes—a half set, one fore and one hind, with nails, are of course indispensable.

An emergency kit for their special use should be carried by the horseshoer, saddler and farrier.

I believe that a lighter rasp and lighter pincers than are now issued to horseshoers, should be secured for the emergency horseshoer's kit; remember the horseshoer must carry these articles in his saddle bags in addition to the regular pack including his own extra rations and grain for his horse.

Our new feed bags wear out very rapidly, and in each troop a man should walk the picket line when horses are eating their grain and remove feed bags as soon as empty. It would help matters considerably if the bottoms of feed bags were made of very heavy canvas.

Frequently we had to grind our corn or wheat to make corn meal or flour for corn dodgers and tortillas. Mexican peons have small hand mills which we constantly had to borrow until we bought mills of our own. Let such a mill be part of the field cooking outfit.

The sweater, as everyone knows, is unsatisfactory, but on the 6,000 and 7,000 feet plateaus of Chihuahua an extra garment is needed at night and we found *it warmer* when worn *under* the O. D. flannel shirt rather than over it.

Shoes, if possible, should be hobnailed; and *don't forget* that unless especial care is taken our men are prone to draw shoes which are too small.

The pistol magazine pockets of webbing soon wear out at the bottom. This can be obviated by having the saddler cover the lower half with leather. Remember the bandolier is not strong and durable enough to carry ammunition thrown

over the shoulder on the march. It is intended for emergencies when going into action, etc.

Troop Tools. Each troop should have an axe (provided with a sling and scabbard to protect the edge) and one each of the small shovels carried by the infantry or issued with the new cavalry equipment, and a small pick mattock.

Picket Rope. We made lariats (doubled) answer this purpose, but they were not satisfactory and the ordinary picket pins were rather too short. The very lightest rope that will answer the purpose, however, should be carried, and pins should be at least fifty per cent longer than the regulation picket pin.

Every man should have a lariat, but I doubt if it is necessary for evey man to have a picket pin.

Before starting out, see that each pair of saddle bags is provided with canvas inside pockets.

The short fleece lined overcoat with high rolling collar introduced at the Mounted Service School, and of late generally used by cavalry officers is invaluable—particularly to sleep in at night. Officers wearing this will of course omit the sweater.

Mounts. The very best mount which I saw was a four year old Arab Stallion owned by * * * . This sturdy animal was head and tail up and *fat* when most of the troop horses were skin and bones. It is important to have a horse that is a "good feeder," one that starts to eat at every halt; also one that wastes no energy on the march.

Saddle. The French officer's saddle is preferred to any other. It should be provided with two rear saddle bags—one on each side. Saddle blanket—a new one should be used.

The government O. D. blanket is too heavy for the warmth one gets from it. I used a lighter weight, all wool, fluffy Jaeger blanket. This with the slicker, saddle blanket and fleeced lined coat above referred to, with saddle for a pillow will in summer months usually be sufficient.

Every officer should have two mounts where possible, the led horse should be saddled with McClellan saddle and saddle bags, and should carry the officer's pack, leaving the mount which he is riding with practically a stripped saddle

so far as concerns weight. The (new) saddle blanket used in the daytime under the McClellan saddle furnishes an extra bed blanket for the officer at night. Of course under the conditions of which I am writing, an officer's twelve pound bed-roll and the accessories that go with it are not to be thought of.

Every officer should carry enough of some kind of concentrated food for a couple of meals at least; some will prefer the emergency ration, others cheese, choclate or dried beef, but they should have *something* of the kind always at hand. Recollect that hard bread is rather a bulky form of ration.

The ration for the men when living off the country will generally be fresh beef killed each night and the first meal of same eaten the following morning, with enough packed along for that night or even longer if transportation is available. Pork (not of best quality) is usually found at all ranches.

Country. The country from Culberson's Ranch to Parral may in general terms be described as a series of immense plains from four to ten miles wide (east and west) and from ten to thirty miles long, separated by mountain ranges trending north and south. A large part of these plains are covered with grass, and water is to be found about every ten or fifteen miles. The country is sparsely settled and the ranches are generally large establishments comprising anywhere from ten to thirty families.

The question of supply usually forces one to camp at one of these ranches which afford very dirty camps as a rule, but I only recall one where I thought the water unwholesome. The grazing in vicinity of these ranches is usually poor. One should remember that a very large part of the country above mentioned is at an elevation of from 6,000 to 7,000 feet with cold nights and warm days. South of Cusicuirachic the climate is considerably warmer than north of that point. Quartermasters should be supplied with *cash* (Mexican silver preferred) for purchase of supplies.

Colors. The National Colors should be carried both for regimental headquarters and for squadrons when the latter are detached. The regimental colors I would leave behind.

General Subjects

THE PREPARATION OF COMBAT FIRING EXERCISES AND THE CONDUCT OF THE SAME.*

By Lieutenant Colonel F. SAYRE, Second Cavalry.

COMBAT firing exercises are field maneuvers consisting in operations by troops against an enemy represented by targets and involving actual firing. They fall into the class of one-side maneuvers and are conducted by methods similar to those employed in one-side map maneuvers and field maneuvers with an outlined enemy. There must be a director to prepare the problem, to impart it to the commander, to give needful instructions, to make decisions when necessary, and to conduct the discussion or critique.

The assumed military situation may be imparted orally or in writing. Whether written or oral it is commonly spoken of in our service as a "problem." It may contain a general situation, or statement of the outlines of the military situation of the forces assumed to be opposing each other in the theater of war considered, and a special situation, or statement of the particular situation of the troops to be employed in the exercise contemplated.

The problems emplcyed in combat firing exercises are ordinarily problems of execution rather than problems of decision; but they should leave to the commander a certain field for the exercise of discretion. To save time and to ensure

*Lecture delivered at the School of Musketry, Philippine Department, at Fort Wm. McKinley in December, 1915.

that the exercise will result in a combat and that opportunity will be given for firing, the situation selected should place the troops employed in contact with the enemy at the outset and should assign to the commander a mission which will cause him to attack with his whole force or to seriously defend a position.

There are two general methods followed in the preparation of tactical problems. Sometimes the character of the exercise is decided upon in advance. If it is desired to illustrate certain dispositions or a particular principle of tactics, we may decide, at the outset, upon a general outline for the exercise. We must then fit this outline to the ground, if it is a field exercise, or to the map, if it is a map exercise. That is to say, we must look for features of terrain which lend themselves to the situation we have in mind. For instance, suppose we wish to illustrate the deployment of a route column of cavalry for a mounted attack. We must seek a suitable road for the column and select a place on it with a view to avoiding exposure to the view of the enemy prematurely. Then we must find open ground for the attack and a conveniently located point of support for the advance guard to enable it to cover the deployment and furnish fire support for the attack.

If we are limited to a particular form of exercise we may study the ground or map with an open mind. Some feature or combination of features will suggest some tactical idea which, with further study develops into a scheme for a maneuver. For instance, a defensive position may present itself. Upon examination we find a covered route leading from the front against one of its flanks. An attack and defense exercise is suggested and we have the choice as to which is the better side to take. We then select a convenient starting point for our troops and prepare the description of the initial situation. Both of these methods have certain advantages. By means of the first we may give the instruction which is thought most desirable at the time. This method must be followed to some extent in any comprehensive course of instruction. The second method should give good results in the way of plausible and naturally developed exercises.

In the case of problems for combat firing exercises, as in all tactical problems, heed must be given to the special objects sought, and consideration must be given to the previous training of the organization to be employed, especially to its experience in exercises of a like character.

Paragraph 6, Infantry Drill Regulations, says:

"(*c*) Field exercises are for instruction in the duties incident to campaign. Assumed situations are employed. Each exercise should conclude with a discussion, on the ground, of the exercise and principles involved.

"(*d*) The combat exercise, a form of field exercise * * consists of the application of tactical principles to assumed situations, employing in the execution the appropriate formations and movements of close and extended order. Combat exercises must simulate, as far as possible, the battle conditions assumed."

Paragraph 224, Small Arms Firing Manual, says:

"(*a*) Every exercise should involve a tactical idea, though only portions of an episode or episodes of a combat should be represented.

"(*c*) The position of the targets and the ranges thereto should be unknown to those participating. If practicable, the exercise should be on unknown ground.

"(*d*) Exercises should be simple in their arrangement, but each should involve some feature which is unexpected to those taking part."

General Orders No. 37, Series, 1914, Philippine Department, directs that, "in firing exercises for all fractions of the company, the company commander will prepare the problems and conduct the exercises," and that, "each battalion commander will prepare the tactical problems and conduct the combat exercises in person for the training of the companies of his own battalion."

The chief object of combat firing exercises is to give organizations training and experience in firing under conditions resembling those of battle and to test the efficiency of organizations in actual firing. But the necessity of simulating battle conditions provides excellent opportunities for tactical in-

struction and these opportunit'es should be utilized. However, moderation must be exercised in this respect. A complete course of instruction in tactics cannot be given in any one exercise. By attempting to cover too much ground in the way of tactical instruction, we are likely, not only to consume an undue amount of time, but also to confuse the officers and men and obscure the main objects of the exercise.

The opinion has been advanced that a combat exercise for cavalry should begin with a reconnaissance by mounted patrols, should include the preparation of written reports and sketches and should terminate with a mounted charge. But this would make the exercise take up a great deal of time and other opportunities can be found for instruction in reconnaissance, reports and charges. The tactical instruction of the organization can be rounded out at other seasons by exercises with blank cartridges or with no cartridges at all. If the tactical lessons which we attempt to teach at one time are limited in number, the lessons taught are more likely to be understood and remembered. If a combat exercise can be made to illustrate some one good point in tactics we should feel satisfied in this respect.

It is of even greater importance to avoid the inculcation of wrong lessons. A certain combat exercise began with a sentry squad firing on a group of targets in its front. The commander of the squad was told that he was in the presence of a superior enemy and that he should signal for reinforcements. A platoon, representing a picket, posted further to the rear, was instructed to obey this call and the platoon and squad advanced against the enemy. The platoon fired on another group of targets and its commander was then told that he was in the presence of a superior enemy and that he should signal for reinforcements. The remainder of the troop then came up and the exercise terminated with the troop advancing and firing at a third group of targets. The exercise took up a great deal of time and most of the lessons taught were wrong. An outpost has a purely defensive mission and no part of it should leave its post on the initiative of its commander to attack an enemy. The ordinary channels of command were reversed, a sergeant giving orders to a lieutenant and the lieutenant giving

orders to the captain. No exercise of discretion was permitted, but each commander was required to play a part in a prearranged program. It was a demonstration rather than a combat exercise, and a demonstration of things which ought not to occur.

A degree of discretion should be left to the commander. He should be required to make a decision either as to what he should do or as to the manner in which a designated object should be accomplished. And he should be required to communicate the situation to some or all of his subordinates and to give orders to them. These requirements should not appear in the form of explicit instructions, but should devolve upon the commander as a necessity growing out of the assumed situation.

As is the case in all one-side maneuvers, the director must play a more active part than the rôle of an umpire in a two-side maneuver. The director knows where the targets are and knows also the form which the exercise must take in order to attain the desired results. He draws the exercise into the desired channel by timely information of the enemy, supposed to have been obtained by normal methods, and by decisions in regard to the effects of fire, etc., rather than by means of instructions. The director should give such information, make such decisions and give such instructions as are necessary to prevent the miscarriage of the exercise, but should interfere with the commander no more than is necessary for this purpose.

In taking different organizations successively through the same exercise, it will be found necessary to give some commanders more information, decisions and instructions than are needed by others. For this and other reasons the oral method of imparting situations has manifest advantages. It is a most valuable training for an officer to compel him to concentrate his attention upon what another is saying and to grasp the details of a military situation quickly from a verbal statement of them. When an officer puts on his reading glasses and concentrates his mind upon a piece of paper he loses touch with what is going on around him. A quantity of written matter is thrust upon him at one time and a delay is incurred while he is digesting it.

When the situation is imparted orally, it is necessary to describe only the general situation at the outset. This can be given by the director to the commander and by the commander to his subordinates without delay. Then, perhaps, some one additional detail, say a report from an imaginary patrol, may be added, which will cause the commander to set his organization in motion in the desired direction. Some information may then be given which will place him in contact with the enemy. For instance, the director may tell him: "Your point signals 'enemy in sight'"; or, "A patrol which you sent out on your right flank has reached the crest of that hill and has lain down there, it is now firing in the direction of the tree you see yonder." By pointing out localities the director keeps the commander in touch with the situation and avoids delay. By imparting information progressively, the exercise can be made more realistic and can be conducted smoothly and in the desired direction.

It is generally supposed that but little variety can be given to combat firing exercises. Certain limitations are imposed by the fact that it is ordinarily desired to have all of the men of the organization fire at the same time and under the same conditions. This limits the employment of detachments and the holding out of supports and reserves. In a certain company exercise, the company was deployed in the desired direction and the targets representing the enemy appeared. The captain ordered two platoons to fire on the enemy and held two platoons in reserve. After firing one minute another group of targets appeared on his flank and he ordered one of the reserve platoons to fire on the new objective, still holding one platoon in reserve. After firing an additional minute, all of the targets disappeared. The exercise was not entirely satisfactory as a firing test because only one-half of the company fired during the first minute and one platoon did not fire at all.

Combat patrols and other detachments cannot ordinarily be actually represented. And the exercise should be so directed that the commander will not hold out supports and reserves even though under the assumed situation, he thinks it best to do so. But these considerations need not limit the scope of

the exercise. The employment of detachments and supports may be considered, even when they are not represented. When the organization is set in motion toward the enemy, if the commander desires to send out detachments to obtain information or provide for security, the director can say that these detachments will be assumed to have been sent. The director then becomes responsible for the supply of the information which might be obtained by these detachments, and this gives him a means of keeping the exercises in the desired channel. If the commander thinks that a part of his organization should be held as a support during the firing, the director can inform him that imaginary troops will be assumed to have been sent to support him.

If the organization is to advance toward the enemy at the beginning of the exercise, the detachment of an advance guard or a point can often be actually made, and arrangements can be made for halting them at points at which they are assumed to attract fire from the enemy. Information of the enemy may be imparted through these advanced detachments with the object of making the exercise more realistic. If the organization is regarded as acting alone, the detachments which it makes for security, etc., must ordinarily be assumed or imaginary. In other words, their functions must be filled by the director. If the organization is regarded as acting in combination with other troops, questions in regard to detachments are not likely to arise, but the director must fill the place of the higher commander and must describe the positions and movements of the supporting troops.

The simplest form of combat firing exercises is where the organization employed is conceived of as occupying part of a defensive line of indefinite extent in both directions and the enemy is represented by a group of targets in its front. No maneuvering is necessary and the work of the commander consists in estimating the range and in directing and controling the fire. The exercise can be varied and complicated by causing the targets to disappear and targets to appear in other places, thus necessitating orders for changes of objective and sight setting. For instance, the targets might first appear at about 800 yards to the front. After being fired on they dis-

appear and presently similar targets appear, two or three hundred yards nearer, conveying the impression of an advancing enemy. If the nearer targets appear first they convey the impression of a retiring enemy. If the targets disappear and other targets appear on the flank of their position and nearer, the advance of adjacent units by a ternate rushes is suggested.

Defense exercises can be given additional variety and interest by conceiving of the organization employed as being on the flank of the defensive line. After firing upon an enemy in front, or even while still firing upon him, another enemy may appear on the exposed flank, making it necessary to divert part or all of the fire upon the new objective. Movement may be introduced into defense problems by having the troops move forward to take their places on the line, or a counter-attack might be made.

Attack exercises are more interesting than defense. Changes of position put life into the exercise. After firing the troops may advance to one or more new positions and resume the fire. The entire organization may advance, the advance being assumed to be supported by the fire of other troops, or the advance may be made by fractions of the line at a time. In the latter case care must be exercised, for the fraction in front may be in actual danger from the fire of fractions in rear. Disappearing targets are almost a necessity in defense problems; they are not so necessary for problems in attack.

Of still greater interest are exercises where the organization is taken as acting alone or where its commander is operating in conjunction with other troops but is charged with a measure of independence; for instance, where the organization is supposed to form a covering detachment for a larger body. An infinite variety may be obtained in such exercises, subject only to the limitations of the ground available. The organization may be taken as an advance guard, and while marching, the commander may be informed that he is under fire, and a line of targets shown him in such a position that unless he attacks promptly and drives the enemy back, the main body will be seriously delayed. Or the situation may be such that the main body will probably avoid an engagement or will need considerable time before it is in position to reinforce its advance guard.

The advance guard then seeks a point of support from which it can cover the main body without becoming closely engaged. Or, the commander may be told that the main body has been attacked by hostile troops advancing on its flank and rear; he would then abandon his former mission and return to support the main body or seek an opportunity to attack the flank of the enemy.

Problems requiring the exercise of initiative are especially desirable. Self-reliance, promptness in forming decisions and boldness in taking advantage of opportunities are qualities which should be cultivated in our officers and the ordinary conditions of the service offer but few opportunities for cultivating them. Field exercises requiring initiative, decision and independent action are the best means of training officers.

It may be objected that if too much is left to the judgment of the commander, there is danger that the exercise will miscarry. But this need not be the case. If the commander fails to take the course contemplated, the director can inform him that a messenger has just arrived with additional information of a character to make his mission clearer, or that orders have been received from a higher commander directing him to take the course contemplated. The commander's failure to act without orders may then be commented on in the critique.

Disappearing targets have certain obvious advantages. They permit the director, to a certain extent, to control the movements of the enemy; and, by imbuing the enemy with a semblance of life, add to the realism of the exercises. When placed at or near trenches and connected with the firing point by telephones, they save a great deal of time in the collection of the data needed for the critique. But the exercises which can be conducted with the disappearng targets are limited in variety, the troops ordinarily know the location of the trenches and the estimation of the ranges is made abnormally easy.

Variety can be attained by placing lines of targets on the ground in unexpected positions. More time is then consumed in obtaining the results of the firing and more strain is imposed on the imagination; for the enemy does not disappear when he is supposed to do so and, in order to stop the firing, the director

is compelled to say, "The targets you have been firing on are supposed to have disappeared." The best results are probably to be expected from a combination of both methods, using the disappearing targets in the usual places for the preliminary exercises and the ordinary targets in new places afterwards.

The statistical record and the director's comments on the tactical dispositions form the basis of the critique. The statistical record should be complete for each firing and should include: (*a*) the number of men firing; (*b*) the number of shots fired; (*c*) the actual range; (*d*) the estimated range; (*e*) the number of hits; (*f*) the number of targets hit; (*g*) the number of hits expected; (*h*) the number of targets expected to be hit; (*i*) the time consumed in firing and (*k*) the number of shots which should be fired during this time. It is well to dictate this data to the officers of the organization at the beginning of the critique. If they take it down in their note books they can, by referring to these notes, follow the discussion more satisfactorily.

The director should show a spirit of fairness in his remarks. In comparing the results of the firing with the results to be expected from average shots as shown by the tables, it should be remembered that the data of the tables were collected from firings on an "A" range. That is to say, the distances were known, the visibility of the targets was perfect and the men firing were able to use the prone position. In combat firing exercises the ranges are not supposed to be known, the targets cannot always be seen well, and some of the men are frequently compelled to kneel, sometimes even to stand, in order to see their targets. Colonel G. W. McIver says on this point, in a lecture delivered at the Musketry School, Philippine Department, in 1914: "The average error in the estimation of ranges is from twelve to fifteen per cent. so that a perfect estimate cannot be insisted upon. On the other hand, when the target stands on ground which affords good signs of impact, a good adjustment of fire should be obtained and allowances on this account, if made at all, should be slight. When targets or natural objects used as aiming points are very obscure or faintly outlined, precision in aiming is much more difficult, the dispersion is greater and the accuracy falls below the standard.

Lack of visibility may also affect the distribution of the fire and lowers somewhat the rate of fire. As an offset against these deductions, the ricochet hits scored give an increment favorable to the detachment firing, since the computed results do not include ricochet hits. This increase, under favorable conditions, may amount to twenty per cent. of the total number of hits scored. It is safe to say that allowances below the standard prescribed in Paragraph 31 of the Field Firing Standard, should never exceed twenty-five per cent. on account of all causes. Usually it should be much less, the amount depending upon the judgment of the supervisor."

The point is often made, in comparing the results of field firing with the proficiency test standard, that the enemy is supposed to be composed of average shots and is supposed to make the standard number of hits on the organization firing. Consequently, if the organization firing hits fewer targets than the standard number, it is supposed to have failed to gain a superiority of fire. But it should be remembered that combat firing exercises are only a form of target practice and that the results obtained in actual battle firing depend upon a variety of conditions which do not exist in target firing and that they do not approximate to those obtained in combat firing exercises.

The tactical features involved in combat firing exercises may vary so greatly that it is impossible to lay down any rules to serve as a guide in criticising them. It is well to remember, in discussing tactical dispositions, that good results may be obtained by a variety of methods and that originality should be encouraged rather than repressed. The difference observed in solutions of the same problem by different officers often result rom the fact that they have conceived of the situation somewhat differently. A problem is never so completely stated that the commander is not compelled to make assumptions in regard to some of the conditions. Different officers make different assumptions and their decisions differ correspondingly.

When problems are required to be written as an exercise for the purpose of instruction, the officer preparing them should be required to state the tactical principles which the exercise

is intended to illustrate. There is no one form for written problems which is suitable for all cases. A form should be selected which is well adapted to describing the particular situation which we have in view. If the exercise is to be carried through successive stages, the problem will consist of several parts which should be appropriately numbered. Two problems are given below for the purpose of illustrating two different kinds of combat firing exercises. These exercises might be conducted orally, without making use of written matter. A written memorandum for the range officer should, however, a ways be prepared, containing necessary data in regard to the kind of targets desired, their location, the manner in which they are to be handled, etc. The problems given are based on the twelve inch map of the "B" target range at Fort William McKinley, P. I., but could be readily modified to adapt them for use elsewhere.

COMBAT FIRING EXERCISE NO. 1.

Situation:

A firing line occupies the position Q—R—west, engaged with an enemy on the line O—west (2). You are in command of a platoon of infantry which has been held as a support in hollow north of Q. You have just received instruction to place your platoon on the left of the firing line and open fire on the enemy at O (2) which is already under fire from our troops, with the object of ga ning a decided superiority of fire.

NOTE.—If the platoon commander offers to send out a combat patrol he is informed that this matter has been attended to by higher commanders.

Outline of Events:

The platoon is deployed east of Q and opens fire. After firing one minute targets appear at its left front (5) and the commander is informed that this enemy is firing upon him and upon the line to his right. (If he does not immediately divert the fire of his whole platoon upon the new objective, he is informed that he has been ordered to do so.) After firing on the new objective one minute all targets disappear.

Points Illustrated:

(*a*) The importance of combat patrols.

(*b*) Fire must be met with fire.

(*c*) The danger of short range fire, especially from an enfilading position.

(*d*) The most dangerous enemy should be selected as an objective.

(*e*) The platoon is the unit of fire control and while the captain is normally the fire director, the platoon commander must sometimes act in advance of orders in directing the fire of his platoon.

Memorandum for Range Officer:

(*a*) A platoon with rifles and twenty rounds of ammunition in the hollow north of Q at —— A. M., on the —th inst.

(*b*) Twenty-four prone targets in plain view at (2).

(*c*) Twenty-four prone targets concealed at (5).

COMBAT FIRING EXERCISE NO. 2.

I. Your platoon is the advance guard of a company which is marching west on this road. You have just reached this point (west edge "B" range camp). A hostile patrol has been seen at Balagbag Station. What dispositions do you make?

II. Your point has reached the knoll yonder (S), has halted, taken cover and signals, "Enemy in sight."

III. On reaching this point (S) you receive fire from the vicinity of the mango tree (1) and an enemy appears there.

IV. After firing on the enemy one minute he withdraws to the south over the ridge. Your company has continued to advance west on the road. (NOTE.—If the commander does not decide to pursue the enemy, he is informed that the captain has directed him to do so.)

V. On reaching this point (mango tree) you find that the enemy has left this vicinity. Your company has continued to advance and is now at S, marching west with a new advance guard. An enemy appears at N (3) and opens fire on you.

VI. After the platoon has fired one minute the enemy disappears.

Tactical Principles Illustrated:

The ordinary mission of an advance guard is to clear the way for the main body. It must promptly attack an enemy who bars the road with fire in order to enable the main body to advance. If the enemy withdraws to a flank he must be followed far enough to secure the route of the main body. The advance guard may thus become a flank guard and eventually a rear guard. The main body continues its advance, pushing a new advance guard to the front. The advance guard commander should not wait for orders but must act promptly on his own initiative in order to avoid delay.

Memorandum for Range Officer:

(*a*) A platoon with rifles and twenty rounds of ammunition at the "B" range camp at —— A. M., on the —th inst.

(*b*) Twenty-four prone targets concealed in Trench No. 1.

(*c*) Twenty-four prone targets concealed in Trench No. 3.

CAVALRY INSTRUCTION.

THE REVIEW—A TEST.*

THE review of cavalry, properly conducted, is an inspection having for its object a test of appearance of men and horses; a test of precision in evolutions; a test of horsemanship and horse training at increased gaits, and a test of endurance and condition of horses.

2. To effect this a rectangle should be laid out 600 yards by 300 yards, or thereabouts. On this the command should march past at a walk, trot, gallop and extended gallop, and then charge past. Thus the command will cover four miles—three miles at increased gaits.

3. After the command is presented to the reviewing officer and before the march past, a hasty inspection of appearance should be made by him by riding along the line, to determine generally care and cleanliness of the horses' coats, manes and tails, etc.; neatness of equipments and clothing. It is desirable that these points be determined before the dust and dirt caused by the march past have altered the appearance of the command. After the march and charge past a similar hasty inspection, by riding along the line, should be made of the condition and endurance of the horses, as shown by their more or less fatigued condition after the rapid march. A closer and more detailed inspection of the individual organizations which constitute the command may, if desirable, be made later. This later inspection should not be construed, however, as part of the review.

4. In the review as a test the following points should be noted by the inspector. (Deficiencies should be published): On forming: precision and promptness with which the command is formed for review. At the first inspection: Correctness o

*G. O. No. 1, Headquarters First Cavalry Brigade, February 7, 1916.

alignments; care of coats, manes and tails of horses; smartness and neatness of clothing; care of equipments. During the march past: Precision of evolutions; correctness of alignments; correctness and uniformity of gaits; control of individual horses; horsemanship and seat of men; uniformity in carrying the saber. During the charge: Control of horses, seat of men; correct handling of the saber; rapidity of gait—(the charge should be made at a run, and the slowest horses must be trained individually to move a mile in a little over two minutes); cohesion (boot to boot), order and alignment. During the hasty inspection following the march past and charge: Whether the horses are unduly fatigued or panting; comparative condition of horses n different organizations, thus establishing the extent to which the horses have been hardened by training.

5. The review, thus conducted, is a test of organization, discipline, smartness, precision, endurance, and of garrison training as well as of field training. Commanding officers should frequently put their commands through this test in order that they may assure themselves that in every respect these requirements have been fu filled.

GENERAL RULES FOR COMBAT EXERCISES.*

The following rules should regulate the conduct of officers and men at Combat Exercises and Field Maneuvers. (See also Pars. 135 and 141, F. S. R., and Pars. 664—762, C. S. R.)

The Commander.

The commanding officer of the troops and his staff officers should wear on the arm or cap a band or other device in order to be readily distinguished.

The commanding officer should be supplied liberally with aides, orderlies, messengers and trumpeters.

*G. O. No. 6, Headquarters First Cavalry Brigade, March 7, 1916.

His position in small commands should be near the front of his command.

He should always be in communication with every part of his command and with his chief of scouts. He should demand constant reports from his scouts.

His command should not be scattered, but should be under his direct control, and the detachments of his command should be in a position to always support each other.

As far as practicable he should make his subordinates, including his men, acquainted with the nature of his plans. In order that he may profit by their suggestions he should frequently consult his officers, either by conferences or otherwise.

When practicable he should always personally reconnoiter the enemy's position before attacking.

He should not lose control of his artillery and machine guns.

He should as a rule adopt the simplest form of attack, keeping his troops well together and profiting by the mistakes of his enemy. He should avoid making combined attacks by widely separated detachments.

He should never attack when the probable gain will not offset the probable loss, nor should he attack when victory will cripple his command to such an extent as to make it useless for further operations.

The Mounted Attack.

The principal occasions for the mounted attack are when a surprise can be made at close range; when hostile cavalry forces meet each other unexpectedly; under circumstances where dismounting to fight on foot is undesirable or impracticable. At short ranges it is sometimes safer to charge foot-troops mounted than to attempt to dismount or retire in their presence. It is also a question of the weapon and of moral effect; against foot-troops the pistol or the rifle should be used; against mounted troops, preferably the saber. A great expenditure of horseflesh in action is to be avoided. As a rule the rifle is the most important weapon, and the horse is most valuable for the mobility it gives the troops.

Conservation of Horses.

Since as a rule the fighting of cavalry is dismounted and the horse is used principally for mobility on the march and in taking position, and since the loss of the horse destroys the value of cavalry, every means should be utilized to conserve his life and efficiency. Cavalry troops at a halt under artillery or rifle fire should instantly disperse and, if possible, take cover from fire and from observation. Moving cavalry can escape the effects of artillery and long range musketry fire by dispersion, or by filtering troopers one by one across a bullet-swept space. If it can be avoided, cavalry should never dismount under a close fire of musketry; if cover is to be had immediately in rear, they should gallop to the rear, preferably in dispersed order, and having reached cover they reform and dismount before moving forward to the attack. It sometimes happens that cover for the horses can be found to the front, in which case it should be taken advantage of, if it can be done without undue loss. Troops approaching the firing line mounted should always be preceded by special combat patrols. The act of galloping up on a ridge and dismounting while under fire of the enemy cannot be too strongly censured, since under these circumstances the slowness of dismounting and moving the led horses to the rear exposes the animals to numerous casualities. Dismounting and firing while holding the reins should never be indulged in except against a fleeing enemy, or when not exposed to rifle fire.

Led Horses.

Great care should be taken for the safety of the led horses. An officer should invariably be in command. His duty should be to move the led horses rapidly to the nearest cover. In case they are under fire, the movement should be made in dispersed order. On reaching cover he should see that they are concealed. When necessary to further hide their position the horse-holders should dismount. That they are concealed should be carefully verified by the officer. To accomplish this he should make an inspection, moving around their flanks mounted, and again on foot. He should establish outposts to protect the led horses, and files to connect the led horses with the firing

line. If at a distance, the led horses should have a special guard. In case the led horses cannot find cover from fire, but only cover from observation, he should so disperse them behind trees, buildings, etc., that they cannot be seen from the front. He should be ready at any time, if ordered, to re-inforce the firing line by linking his horses, head and tail, and sending the spare troopers to the front.

When necessary to dismount under fire the casualities among led horses are much diminished by quickness in dismounting and in sending the animals to the rear. To accomplish this troops should be trained to dismount and get into action by methods quicker than those heretofore indicated in the drill book. The command should be simple, as: "Action Front; Commence Firing." The dismounted troopers should rush to the front and commence firing at once, in order that they may keep down the fire of the enemy. The horses should be trained to dash to the rear as soon as they are taken charge of by the horse-holders. The horses in an emergency should not be linked, the reins being merely passed to the horse-holders. Order in moving to the rear is not necessary. It is better that they move in fan-shaped formation or in line, each horse-holder moving without regard to the other fours. Arriving under cover the column may reform.

Scouts.

Scouts should move in groups of three, one acting as non-commissioned officer in charge. The principal faults of scouts are:

Moving out too far from their commands, by wh'ch they lose touch, are in danger of being cut off, and their reports are received too late to be taken advantage of.

Failure to move out far enough, whereby the head of the co'umn is exposed to ambush, and the information received is inadequate.

Failure to send back information. Reports should be made at regular intervals, whether there is anything to report or not.

Falling back hastily on the command in case of a threatening movement of the enemy. Scouts should always remain in touch with the advancing enemy.

Blanketing the fire of lines by remaining in front when the fire is opened.

Engaging in combat with the enemy, or with opposing scouts.

Scouts should never fire except as a signal to indicate the danger of a surprise.

Failing to conceal their presence from the enemy.

Failing to dismount when in a stationary position to observe the enemy.

Dismounting aids concealment.

In reporting, a failure to state the exact position and number of the enemy, whether a platoon, troop, squadron, etc.

Where ambush is feared, a failure to observe signs and marks on the road, horsetracks, the trail of detachments, etc.

Scouts should never be withdrawn from their proper duties to be used as combat detachments, to mislead the enemy, etc.

Neighing horses should not be used by scouts.

The Firing Line.

Officers with the firing line must take cover, otherwise in action they draw the fire of the enemy.

In combat exercises officers who expose themselves should be ruled out. Failure to dismount under fire is fatal.

Exposure of skirmishers when on the firing line must be avoided when by moving to the front or rear cover may be obtained.

The men should be taught by preliminary exercises how to conceal themselves in looking over a rise of ground. They should make use of brush, (and if necessary cut it for the purpose), tufts of grass, etc. It often happens that taking off the hat aids concealment.

Do not change the position of line unnecessarily, for this often gives the enemy a target.

In making an advance to cover reconnoitered beforehand, the movement should be made at full speed. The position where the line should halt should prev ously be explained to the men. When necessary the men should be filtered from one position to another over open ground individually, obliquely or by zigzags.

Conservation of ammunition should always be practiced, the officer in command always knowing whether the first, second, third, fourth, etc., clip is being used. When ammunition is scarce, or when conditions require it, firing should be conducted by the commands: "No. 1; Fire one Round; Commence Firing;" "No. 2; Fire one Round; Commence Firing," etc.

The distance to the enemy should always be carefully estimated and given. The best method is to obtain the means of several estimates made by the most reliable non-commissioned officers. When at combat exercise, firing when properly conducted, is the best kind of musketry training. It teaches the men to distinguish and make out the heads and bodies of the enemy when at a distance; to locate the proper point on the ground or on the enemy's body at which to aim. The men should be required to draw a bead on the point aimed at, and pull the trigger slowly. Except at ranges between 400 and 600 yards, the rear sight should be raised. Commanders of troops fighting defensively should appreciate the fact that the apparent area of a target, and therefore the chances of hitting it, diminish as the square of the distance, and that it is one hundred times as hard to hit a man at one thousand yards as at one hundred yards. Therefore, if the ground to the front is level and without cover, it is better to await the close approach of the enemy before opening fire, since in the retreat he is likely to suffer seriously. Troops firing at horsemen galloping across the front should realize that it is necessary to aim a horse's length in front of a horse at an extended gallop at a distance of 300 yards; two horses' length at 500 yards, etc.

In fighting retarding actions withdrawals under fire should be concealed as much as possible, otherwise the enemy will rush the position before it is completed. Shouting and the use of the whistle, galloping, etc., should be avoided. The men should sneak back quietly in small detachments, the remainder increasing their fire. Mounting and moving off should be done quietly. A few men should remain in position until the command has moved to the rear. In the presence of the enemy, in dismounted fighting, the guidon should always be cased. The fighting line should always be protected by

outposts on the flanks. A special detachment should be detailed to fire on the enemy's machine guns. Men should be practiced in crawling while lying flat on the ground. Also in scraping and digging to get cover, in ground that is favorable. Passing orders must be practiced by word of mouth from man to man. Machine guns should be always placed behind brush, natural or artificial.

RANGE HORSES FOR CAVALRY.

By Major S. L. WOODWARD, First Cavalry.*

(*Read before the Lyceum at Fort Keogh, Montana, March 14, 1902.*)

THERE has been and still exists, to a considerable extent, in the minds of cavalry officers, a prejudice against range horses for cavalry purposes. There is good cause for this, and I must confess to having shared it until recently, when I was detailed to inspect for purchase at Fort Meade, South Dakota, horses of this class to mount the Thirteenth Cavalry. Nearly 700 were accepted and issued to the regiment. They came from the ranges in Montana, Wyoming, North and South Dakota and Nebraksa.

In earlier years the western range horses were a product of the Cayuse or Indian pony mares and inferior stallions bred more for quantity and cheapness than for quality. They were small, ill formed and vicious, and the various attempts to mount cavalry upon these in Texas, and Arizona, were a dismal failure and bred a prejudice against range horses in general that only time and experience will eradicate.

In recent years many of the ranchmen in the western States, realizing the profit and satisfaction to accrue from an improvement in their stock, have bent their capital and energy to the raising of a better grade of animals, and there are today, on many of the ranches in the States I have named, as fine a class of horses for cavalry purposes as can be found anywhere in the world.

They are of good size and form, hardy, free from disease, especially of the eyes, feet, throat and lungs, tractable and very amenable to discipline and training.

*Now Brigadier General, U. S. Army, Retired.

There are still among them many with a vicious, broncho strain, and great care must be exercised in the inspection, especially in the test under the saddle and in handling of their feet, to avoid purchasing untameable and vicious brutes. This was the chief difficulty I had to guard against in the purchase of these horses. Blemishes such as weak eyes, curb, capped hocks, thoroughpin spavin, ill formed or diseased feet, weak lungs or throat affections were almost unknown among those offered for sale.

Those secured by me were generally young, very few being over six years of age, and the majority four and five; they had never been stabled or fed except upon grass and were thoroughly unacquainted with houses or grain The only training or handling was what they had received in being caught from the herd and broken sufficiently to pass the requirements of "broken to the saddle," and as they were generally presented by skilled and fearless riders it was difficult to judge of their suitability for issue to the green and untrained recruits into whose hands they were first placed.

It has been my good fortune to serve ever since, with some of the troops to whom these horses were issued, and I have thus been enabled to observe their development and training which has been gratifying beyond my most sanguine expectations. I believe my assertion in this regard wil be confirmed by most of the officers of the Thirteenth Cavalry who have had their care and training.

After considerable experience in the purchase of horses, having been five months upon that duty in St. Louis several years ago, and having purchased one hundred artillery horses in Atlanta, Ga., in 1898, I am free to say, that were I called upon to purchase a mount for my own command I should be very glad to select them from these range horses.

Their cost at present, especially if purchased in open market, direct from the owners, instead of by contract, is about twenty-five per cent. less than that of horses bought in the large markets from contractors.

In the first instance the history and antecedents of the animal is easily obtained, which is desirable; while in the latter case little or nothing is obtainable concerning their character.

Nine months ago there was issued to each of two troops of the Thirteenth Cavalry now at this post eighty-four of these horses. The men were generally untrained recruits. The troops have since marched an average of five hundred miles upon expeditions, besides drills, and have not lost a horse, nor are there any which are subjects for condemnation. The officers report that there has never been any cases of serious sickness among them, and they are generally tractable and well trained.

This record cannot be surpassed.

SYSTEMATIC SCOUT INSTRUCTION.*

By Captain H. J. McKENNEY, Twelfth Cavalry.

WHEN a state passes from chartaceous warfare to the contest for physical supremacy, exclusive of munitions of war, that which is most needed is information—information which can be obtained only in the theater of operations and which can be obtained only by scouting.

Our military text books are replete with references to scouting. But, what is scouting? It is referred to so frequently and we are so familiar with the term that we sub-consciously assume that the ability to scout is inherent.

General William H. Carter, in his book, "*The American Army*," says: "The great body of citizens is today far less well equipped for military duty in war as militia than their forebears who were accustomed to the use of fire arms." Napoleon has said: "The physical configuration of the country; whether living on the mountains or in the plains; the education or discipline of the inhabitants, have more effect than climate on the character of the troops." In these two statements we see the influence, environment, education and daily pursuits have on a people in their natural equipment for military duty in general. If this is true of military duty in general, consider present day environment and the all engrossing national pastime of pursuing the almighty dollar and see how conducive they are to inculcating, in the great body of American citizens, a knowledge of the principles which are inherently a part of the more specialized and particular duty of scouting. These principles must be taught and taught not only in theory, for men must see and do for themselves in order to comprehend as well as to remember.

*Talk given before the Post Graduate Class, Garrison School, Fort Meade, S. D.

In his preface to "*Studies in Applied Tactics,*" General von Alten says, in part: "To know how is the principal thing in every art. * * * " Scouts who do not "know how" to scout are worse than traitors within the camp. They either fail in their mission and leave their commanders in the dark, without information; or, what is far worse, supply him with mis-information which compels him ignorantly to base his plans on a false hypothesis instead of grounding them on a solid foundation of fact.

The necessity for training cavalry for mounted and dismounted action is axiomatic. But, scouting is as much a part of the rôle of cavalry as either or both mounted or dismounted action. In fact, particularly in the initial stages of a campaign, reconnaissance is the chief function of cavalry with here and there more or less examples of mounted or dismounted actions of detachments of varying degrees of strength. This function does not cease with the initial stages of a campaign but continues throughout the campaign for * * * "reconnaissance must be depended upon to obtain the information upon which all tactical movements of troops should be based." (Field Service Regulations, 1914).

Popular opinion, as reflected by past and proposed legislation considers cavalry more or less superfluous, in spite of the fact that "Reconnaissance in the theater of operations is best made by cavalry, which from the beginning of the campaign seeks to determine the enemy's strength and dispositions (Field Service Regulations, 1914). Von Bernhardi says: "The cavalry's duties are twofold. On the one hand, they must carry out reconnaissances and screening movements, on the other hand they must operate against the enemy's communications, continually interrupt the regular renewal of his supplies, and thus cripple his mobility." Here he neither quibbles over the remote chances of large masses of cavalry fighting as units nor whether or not such an accidental contingent should find them prepared to fight in single or double rank. He simply divides cavalry into its two most important and logical rôles. We will consider only the first mentioned, viz: reconnaissance and screening movements. These two sub-divisions of the first rôles are inseparable and interdependent.

Von Bernhardi also says: "No proof is required to show that under the conditions of modern warfare the reconnoitering and screening units require special training. The possibility and success of all operations are in the highest degree dependent on their activity." The introduction of aero squadrons has in no sense decreased the importance and necessity for cavalry reconnaissance. Aero scouts may locate and keep track of the enemy but by reconnaissance the cavalry must, at least, maintain contact.

To quote again from von Bernhardi: "Coöperation with the air fleet will be a further development, so soon as aviation has attained such successes that it may be reckoned as an integral factor of army organization. The air-ship division and the cavalry have kindred duties, and must coöperate under the same command, especially for screening purposes, which are all important."

In this connection, let us recall the initial movements in the recent invasion of Belgium, when this prophecy was fulfilled. Our attention also has been called to a lesson learned in a recent war when, in his "Aids to Scouting," General Baden-Powell said: "In the Russian cavalry, since the war with Japan, it has been laid down that it is indispensable that every cavalryman must now be trained to scouting," and it is believed that our more recent opportunities for studying actual examples have borne out the soundness of this dictum.

Only a cavalryman trained to scouting can make a satisfactory and complete reconnaissance. Reconnaissance, in its strictest sense, means simply to examine or survey. The term scouting is far more comprehensive; for, a scout to make any examination for military purposes, in hostile territory, among other things, must be trained in how to examine; what to observe; what military features are; trailing; concealment and the use of cover; what to report and how to report it.

Allusion has already been made to the principles which are inherently a part of scouting. Let us look closely into the requirements and details of the methods of scouting and the principles upon which they are based. After mentioning the fact that the manner of reconnoitering different kinds of ground depended mainly upon the circumstances of each individual

case, Colonel Arthur L. Wagner: said "There are, however, certain general methods of reconnoitering various places, which may be given as the result of centuries of warfare, and which are, in some respects, common to the armies of the most enlightened nations and the warriors of savage tribes." Here Colonel Wagner has recognized and emphasized the fact that, in the main, the principles of reconnoitering and scouting are the same now as they were centuries ago. They are the same principles which have been and must still be applied by the highly educated and civilized soldier of modern times as they have been and always will be applied by the atavistic savage living close to nature, who makes use of them only through instinct. The reason for this is apparent. These principles do not change because they are based upon the unchanging laws of physcis, physiology and psychology.

A civilized scout in uniform or a savage in breech clout places himself before a background similar in hue to that of his own. Here he makes use of physical and physiological laws as he merges himself into the color of the landscape and is lost to view. By so doing, a physiological law is thwarted and an enemy in the vicinity is prevented from observing him. For psychological reasons, because he thinks himself unobserved by hostile vision, the enemy is free in his movements. Under such conditions, observation of his actions will probably disclose the enemy's true intentions and something may be learned from which useful deduction may be made. This illustration is but one of many, where we may find applied the principles of the unchanging laws upon which all methods of scouting are based. The modern inventions and modern methods of warfare do not change these laws. They simply extend the scope of their application.

Any system of scout instruction is good which assimulates the fundamental principles of the laws upon which all the details of scouting are based. Such a system will be improved if arranged with an idea of progression. If we may evolve such a system and so arrange it that any one of its units may be used for purposes of instruction, irrespective of other units, then we will have attained the acme of excellence.

As the mission of a scout is "To get the required information and report it to the proper authority in time for it to be of use," it appears that the first logical step, in progressive scout instruction, should be to give instruction in reporting, such as: *(*1*) *Personal Verbal Reporting;* (*2*) *Verbal Reporting by Messenger;* (*3*) *Reporting by Use of the Field Message Book* (*Signal Corps Form No. 217 A*); (*4*) *Reporting by Written Messages on Blank Paper, Conforming to the Form in the Field Message Book.*

If there is adopted at the outset a simple set of rules to be observed in obtaining and selecting information for report, the rules may be used with particular advantage in the four exercises just mentioned as well as throughout all succeeding exercises. They will establish a uniformity in the form and a discriminate selection in the subject matter of reports.

The next stop should embrace the details of the material for reports, how to observe and recognize them, such as, instruction which delineates and points out those things which constitute (*5*) *The Military Features of all Objects, Different Classes of Terrain, Elements of a Terrain, etc.*

A variety of exercises should then be arranged which would include reporting on selected military features. These exercises may be easily adapted to meet the conditions of any environment.

This brings us to the actions of the scout while collecting information for reports. As scouting operations are generally conducted in hostile territory, the success of such operations depends largely on the ability of the scout to make himself invisible to hostile observation. We will have progressed, then, to instruction in (*6*) *Concealment and Use of Cover while Stationary,* (*7*) *Concealment and Use of Cover while Moving* and (*8*) *Concealment and Use of Cover while Ascending and Observing from Elevations.*

Following this training, the scout should be ready to receive instruction in (*9*) *Observing and Reading Ground Conditions,* (*10*) *Observing and Reading conditions other than Ground Conditions,* (*11*) *Deductions to be Made from the Conditions Observed,* (*12*) *Reading the Tracks of Horses, Mules and other Animals,*

*Numerals and headings in bold faced type denote separate exercises.

(*13*) *Laying a Trail to be Followed and how to leave Concealed Messages on such a Trail.*

This stage of development will find the scout ready to take the field and go into unknown country. The next step should teach him (*14*) *The Different Means of Finding the Points of the Compass,* (*15*) *How To Scout Through Strange Country by Following Verbal or Written Instructions as to Directions and Locations,* (*16*) *How to Scout Through Strange Country, Follow Directions and Find Locations by the use of Maps.*

This instruction should have developed the scout to the extent that, now, he should be able to fulfill all the requirements of any mission, under daylight conditions. However, developments in the present European War have demonstrated that night operations of great magnitude are now the rule and not the exception. On this account, training in night movements has been thrust upon us as an imperative measure in order that we may be prepared to meet modern conditions The specialized details of the training of a scout, to meet night conditions, are of greater significance and of far more importance than the training in night movements of individuals who compose organizations which organizations move collectively as units.

For physical, physiological and psychological reasons, night scouting presents many obstacles. The uncertainty of vision, due to darkness, produces doubt and irresolution which result in restricted movements, faulty judgment and incorrect reports.

Preparatory, systematic training under varying night conditions may partially overcome some of these obstacles and only upon such preparatory, systematic training may we properly base hope for certainty of success in any danger. Without it, we base our hope on chance.

Training which connects night sounds with their causes, which begets a familiarity with the difference in appearance of physical objects under varying night conditions (e. g. moonlight, starlight, the afterglow of sunset and the glow preceeding sunrise, etc.), which detects and interprets different odors, which makes touch intelligible without the aid of vision; in short, training which tunes to the *nth* power of acuteness, under all night conditions, hearing, seeing, smelling and the

sense of touch, goes far to eliminating the uncertainty which accompanies darkness. It will allow freedom of movement, a correct conception of conditions and circumstances upon which to form correct judgment and will produce corrections in reports of night scouting.

It is necessary to establish in the individual scout a consciousness of his own ability, a feeling of superiority and a contempt for fear which will carry him to the accomplishment of his mission unhampered by any mental stress. Night assists in producing such mental stress. Night finds the individual's physical powers at a lower ebb than during the day. Add to this the proximity of the enemy, the uncertainty of darkness and the changed appearance or undistinguished presence of physical objects; then, confusion and illusions at once exist. Familiarity with the changed conditions of night tend to eradicate the possibility of such situations. Night training produces this familiarity.

So many physical and physiological conditions affect night vision that difficulty is experienced in selecting for demonstration those which will be most comprehensive in the principles which they demonstrate. Proper judgment of what is seen at night is nfluenced by a knowledge of the effect of different kinds of light, the position of the light, the position of things seen in the rays of the light under observation and the position of the observer himself.

The first night exercise may be based, very properly, on the many conditions and combinations of situations which would demonstrate *(1) *The Influence of Position of Light, Shadow and Terrain on Night Vision.*

In order to know how to form correct estimates of what is seen at night, how to detect the presence of others and to know how far they are away, as well as to understand how concealment is best accomplished, the scout must be familiar with the effect of different kinds of lights on different colors, and understand how, in different lights different colors blend with others and do not make sharp contrasts which may attract attention. With a view to demonstrating these principles, our next set of

*The night exercises are designated by a separate set of serial numbers.

exercises wil be based on (*2*) *Night Vision and Colors and Estimating Distance, Viewing Different Colors at Night.*

We know that different kinds of light, the position of light, the formation of the ground over which the light is seen, the distance the light is from the observer and the position of the observer, himself, all have some effect on the appearances of the light. All or any of these conditions may mislead an observer as to the location and exact distance of the light unless the observer is familiar with all the visual effects of conditions which may be having an influence on the appearance of the light. All of these matters are of constant occurrence and of vital importance when scouting at night. This naturally leads us to exercise in (*3*) *Viewing Artificial Light and Estimating Distance to Artificial Light at Night.*

Having accomplished training in the exercises just mentioned, we will have arrived at the point where we may put into practice and give practical tests to some of the knowledge which has been gained if we hold exercises in (*4*) *Concealment During Night Scouting and Observation of Hostile Approach at Night.* These exercises will first embrace the conditions which prevail during moonlight. Next, the exercises should demonstrate (*5*) *The Use of Stars in Night Observations.*

Having given sufficient tests and demonstrations to have gained some familiarity with the different conditions which affect night vision, our attention next turns to night hearing, *i. e.* hearing sound and interpreting them without the aid of vision. It is necessary for a scout to be able to distinguish and interpret sound when prevented from viewing their causes, to know what produces them when they are heard, and to be able to make an approximately correct estimation of the distance to the point from which the sounds emanate in order that he may comprehend the circumstances and act intelligently when he can not see what is going on in the darkness which surrounds him. (*6*) *Night Sounds and their Causes and Estimating Distance at Night by Sound* may be, very properly, the next subject for our exercises. When this stage of his training has been reached, the scout should be nearing the state of proficiency which would justify his being trusted with night missions. Therefore, his exercises should teach him (*7*) *How to*

Find Directions at Night and the Means of Finding the Points of the Compass at Night.

(*8*) *Night Signals* and demonstrations of the manner and means by which night signals may be made and simple systems evolved, to meet the exigencies of various occasions, should not be neglected. A lack of communication between scouts, separated at night, even for short distances, may be fatal to the accomplishment of most any mission. No attempt should be made to establish a fixed system or code of signals. The exercises simply should show methods of making night signals, in order to call attention to means which are practicable, leaving to the scouts themselves the selection of the means to be adopted, in each case, for communicating with each other by simple, prearranged codes, which they evolve themselves, to meet the conditions of requirements as occasions arise.

Difficulty will be experienced if attempt is made to formulate set exercises for developing and testing the sense of smell, on account of the difficulty of producing, at will, the odors necessary for use as examples. Training in (*9*) *The Detection of Odors and Consequent Deductions* must be given from time to time, in conjunction with other night exercises, when moving at night, to and fro about the country. However, if care is not exercised, the matter may be lost sight of and its importance fade into insignificance. Whereas, as a matter of fact, the power to detect and interpret odors at night is of the utmost importance to all scouts.

A few examples in (*10*) *Developing the Sense of Touch*, in both hands and feet, should be given in order that attention may be directed along those lines. Also, the proper manner of (*11*) *Making and Concealing a Light at Night* for reading compass bearings, maps, messages, and so forth, should be demonstrated.

Although many who pursue this system of training may become competent and reliable scouts, it is not expected that all men of an organization will show proficiency in all branches but, during the exercises, certain men will show marked proficiency along special lines. In order that the special qualifications of these men may be used where and when needed and that more time and effort may be expended along lines in which

they are not proficient, a record of the particular qualifications of each man should be kept, in a convenient form, and entries made therein as he acquires proficiency in additional branches.

The foregoing outlines simply gives a general idea of the contours of the system. The details of filling in and showing the completed system are too numerous and minute to receive the attention they deserve, in the time allotted to this talk. The details of this outline have been crystallized into a formal system of exercises. The exercises have been either used with signal success in training scouts, whose efficiency was later demonstrated by their work, or are the results of principles learned from experience, when confronted with actual conditions, generally in hostile territory.

Von Bernhardi has shown us that the rôle of cavalry in reconnoitering and screening movements, or to use the generic term—scouting, is as important a rôle as the rôle of fighting. To the exclusion of all other duties upon which cavalry may be detailed, the rôle of fighting has been accepted too long as pre-eminently the rôle of cavalry. It is one, but it is only one of the specific functions of cavalry.

During the present chaos of the public's clamoring about military affairs and while the army is struggling through this period of transition, irrespective of the preparedness of the country at large, the paramount duty of the cavalry is preparedness for any emergency whether it be to fight, scout or instruct.

A board of cavalry officers, now sitting daily in Washington, is devising and will fix the methods and means by which cavalry organizations will act as a fighting unit. But, the War Department has seen fit to leave to organization commanders the ways and means by which the cavalry prepares itself to become the eyes and ears of the army in reconnoitering and screening movements—of scouting. Therefore, the completeness of our preparedness and efficiency lies in our own hands and the responsibility of accomplishing it has been thrust upon us. Although we have been allowed a free hand as to details and methods, the responsibility lies none the less heavily.

There is little that is new to be learned about scouting. As General William H. Carter said in a personal letter: "Of

course the subject is as old as the human voice, but * * * it is like tariff sheets, always subject to change." However, these changes only relate to subject matter of reports of scouts or information to be gotten by them while scouting. The principles are as everlasting as the hills. The magnificent efficiency of our cavalrymen in scouting during our Indian wars demonstrated their knowledge of the unchanging principles upon which scouting is based. But, their knowledge was gained in the hard school of experience and not in preparatory training, such as is proposed. How many saddles were emptied in attempting to gain this knowledge and how many missions were not fulfilled by individuals when they were taking this course in the school of experience are beyond estimation.

Herein we have considered only the training of individuals as scouts. But, if our reconnoitering and screening detachment were composed of organizations, each individual member of which had been developed into a competent scout, as well as an efficient fighter, the oft told tales of the magic powers of our Indian scouts would be believed and possibly understood and a body of men would have been developed whose individual and collective efficiency would find few, if any, parallels in history.

EXTRACTS FROM "MODERN CAVALRY TRAINING."*

IN these Notes it is proposed to discuss the cavalry work which tock place early in the War and then the later developments.

At the beginning we realize that the principles which past experience had shown to be sound, were still guides.

The principles of war are neither abstruse nor difficult but their application to circumstances is not easy and requires constant practice.

It is absolutely necessary constantly to be putting these principles into practice with situations on the ground. Then if we apply the correct principles to varying conditions with energy, initiative and determination we shall be successful and we shall act quickly.

By quickness is not meant movement for the sake of movement which tires men and horses and loses the men's confidence in their leader, but the quick thought which meets different situations with a sound plan. But to gain this quickness it is necessary to go on practicing the sound principles until action becomes an instinct, as we have sometimes to act when we are very sleepy, hungry and done up by the strain and noise of war.

The principles of protection are that the flanks must be secured. Side roads and difficult or commanding positions on the flank must be searched and then picketed until the main

*"Notes on Modern Cavalry Training." By a cavalry officer. A pamphlet published by Hugh Rees, Ltd., London. Price ten cents.

body has passed. This must be practiced now as the recovery of men sent to the flank is not easy. The front must never be uncovered to support the flanks, as then the head of the main body is unprotected.

It must be remembered that the first body of hostile troops to be encountered is likely to be the enemy's scouts, and that they must be dealt with vigorously and driven back. Hesitation in dealing with them leads to delay in the advance of the main body and in the enemy gaining the advantage of position.

Dismounted defensive action should not be resorted to on the first contact with the enemy.

WOODS.

It may be a comfort to know that most of the woods in France are grown for afforestation and there is little undergrowth and many clearings and paths, so inter-communication with the flank protection is easier than in English woods. In woods decisive fire is required at once. Therefore thicker firing lines must be formed from the beginning, the supporting lines must be closer and must cover the flanks rather than follow the center. The most important point to attend to is to scout so well with advanced patrols that the firing-line can be deployed in time for effective fire. Therefore, before contact has been obtained with the enemy, it is absolutely necessary to push out a chain of small patrols, from two to four men, along the whole front and well round the flanks. This chain of patrols should be pushed out from 100 to 300 yards in front, depending on the thickness of the wood, and it should be strong enough to enable the patrols to keep in touch with each other. Before contact is gained with the enemy all troops can advance in troop columns of single file at deploying intervals. Supports and reserves should be moved so as to take the enemy in flank. These supporting troops must be trained to push up to the firing-line and to reinforce it, and not merely to form a second line to cover a retirement. At night these supporting troops when coming forward should use the bayonet. In wood fighting it is important to keep maxims well to the front, but it is not important to have a long field of fire.

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RECONNAISSANCE.

Reconnaissance is of the greatest importance and should be practiced.

Reconnoitering detachments of all sizes should advance by bounds. This should be practiced now without troops by squadron-leaders with their troop leaders, and N. C. O.'s in teaching them to go over country and select their points of advance for their covering party and flankers. Scouts, too, should be trained to move by bounds rapidly from one covered position to another. Reports on positions, roads and billets should also be practiced now. The leader of a reconnoitering detachment before starting on his mission should be given certain definite questions to answer. The success of a reconnaissance of any detached mission, depends as much upon the clearness and precision of the instruction it receives from the officer sending it out as upon the skill of the officer conducting it. Instructions must be repeated and repeated until no possible misunderstanding can remain.

Villages should be avoided as halting places for detachments.

Such points as important road junctions or large woods are usually the best points for squadrons to make for.

In the former case a squadron is in possession of a point from which it can move in any direction. In the latter case the squadron may lie up and send out its patrols.

The value of stationary observation from a concealed position should be impressed on all. Open spaces, long stretches of straight road should be crossed rapidly until some tactical point is gained. Then from a concealed position observation is possible. Scouts should work in pairs so that one man can remain under cover with the two horses while the other man crawls up to some point from which he can observe. Directly there is a halt all units must arrange for their own protection and make arrangements such as cutting wire, making gaps in wall or fences so that they can change their position quickly if they are shelled.

Aeroplane look-outs should be posted wherever concealment is required. Their alarm signal will nominally be a series of long and short blasts upon a whistle upon which all ranks will

either hide or remain perfectly still. Aeroplanes are not to be fired at without orders from the officer commanding or squadron leader.

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Situations should be practiced on the ground now with troop leaders and messages should be written so that all are able to do this quickly.

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DISMOUNTED ACTION.

It is necessary to practice dismounting quickly and providing flank protection for the led horses as well as for the firing line.

Squadron leaders want to practice keeping touch with the squadron reserve they keep in hand, and with the led horses.

The officer in charge of the led horses must practice keeping touch with the firing line and must reconnoiter to find places to which to go, to be as near the firing line as possible and to see exactly where different troops have gone so as to be able to send their horses up direct to them. He should also reconnoiter the ground and cut all wire near his position so that he can move away quickly if shelled.

Men should be practiced in leading more than three horses as at times as many men as possible are required in the firing line.

Men should also be practiced in jumping up behind another man when mounting again as their horse may be shot.

When this is done the mounted man must give his stirrup to the man on foot and lean over in his saddle to the opposite side on which the man is mounting.

In dismounted attacks that are to be pushed home, depth is necessary because the firing line must be supported to keep it up to a maximum intensity of fire action; and, also because it is necessary to be prepared to meet the unforseen in the form of sudden enfilade fire. It is also necessary in order to develop the situation by the employment of only a few rifles. At the beginning of an attack half the force only should be deployed

the remainder being kept in support. The ground entirely dictates how far in rear supports should move, the principle is that they should keep as close to the firing line as the ground will allow.

As the firing line approaches the enemy, cover must be a secondary consideration and the supports must be closer to the firing line until they catch it up and become absorbed in it.

In the early stages supports can often move under cover by advancing in columns of single file, and as long as possible they should retain the formation of troop columns in single file.

During the advance supporting troops should not attempt to maintain a strict alignment but troops should halt where the ground provides the best cover. But they must be kept well in hand. They may have to deploy into an extended line but should not do so until obliged to by hostile fire.

COUNTER ATTACK.

The great danger of a counter attack is going too far and being caught by a hostile counter attack when there are no reserves in hand. It is necessary, therefore, that the objective should be clearly defined and strictly limited. It is advisable to deploy a strong firing line at once, men extended as close as two or three yards. The reason for this is that the situation is clear and has to be met with the greatest determination and in the greatest strength.

At Night.—Attacks should be practiced at night. In this case the firing line and supports can be closer together than in the day attacks and the supports should not be so strong. The reserves, however, should be well back between 400 to 800 yards, depending on the light. Good scouting is essential and the attacking line should not be hurried. As in woods a screen of patrols should precede the advance. They must however, be given a strictly limited distance up to which they are to advance. When they reach this point if no contact with the enemy has been obtained the attacking line can come up to the patrols or scouts, and these can then again advance a limited distance and so on.

The intervals between men in the firing line should be about one and a half yards. When closing with the enemy the men *must* cheer.

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RUSHES.

The most unsatisfactory and at times very dangerous plan adopted is to advance by alternative rushes, certain parties advancing while others in the rear continue their fire. In this case those advancing almost to a certainty mask the fire of those in the rear, in which case the volume of fire is still further reduced. In addition it will frequently occur that men advancing will be fired at from behind. Therefore this plan is unsound and not to be adopted on the level or where there is little cover, or where the intervals between the parties is limited. Those who are working the covering fire to be effective must be in a position to continue it from start to finish with no possible chance of danger to the advance; therefore:

(*a*) On the level when covering fire is provided by the firing line itself, it must come wide from the flanks of those advancing.

(*b*) In undulating country it is possible only when those in rear can safely fire over the heads of those in front.

(*c*) Therefore, the best plan is to detail a special covering detachment which will take post much in the same way as a machine gun or battery, and throughout the battle devote itself to covering fire alone. This party should be within 500—1,000 yards of the enemy, preferably the closer range. It should not move forward until the position is taken, but will, by its sustained fire keep down that of the defence.

A long rush may at times be made to pass over an open space in order to reach cover, but it must be made at speed and must end in a fairly long pause to regain breath. Ordinarily, however, a rush should not exceed twenty yards, because:

(1) Less disorder is caused.

(2) The time of exposure is lessened.

(3) The volume of fire is not appreciably diminished.

(4) There will be less loss of accuracy of fire owing to loss of breath.

Each rush should be made in the nature of a surprise.

Men must be trained now to rise absolutely together so that one man in the party is not marked out by getting up first, and they must double forward and then drop together. This requires a great deal of practice and is very important.

Parties in rear should not pass beyond the alignment of those in advance, as they mask the fire of those they pass.

Extended order is used in order to develop fire and avoid casualties.

There are certain disadvantages of extended order and we must practice now to our utmost to act as to so obviate them:

(1) It is difficult to control men, direct their fire, and issue orders.

(2) There is a tendency to lose direction.

(3) During rushes the fire of the party in rear is often masked while those advancing are often fired at from behind.

(4) Dangerous gaps occur.

(5) Communication—and consequently coöperation with neighboring units is frequently lost.

(6) As reinforcements reach the firing line units become mixed with a tendency to disorder.

As soon as a squadron gets into a firing position and it is known that another squadron or regiment is working on its flank, patrols should be sent out to gain touch at once, and to let the troops coming up know the position of the firing line.

Casualties are due to unnecessary exposure of the body. Men must be practiced in crawling. In good crawling a man presents scarcely more of a target when moving than when stationary.

In crawling bring one knee forward keeping the inside of the knee flat to the ground and the back hollow. Now push forward with leg and elbow.

The knees must not be brought up under the body.

Men must be practiced too in doubling forward with empty sand bags and filling them to get cover, then they must practice

scraping and digging when lying to get cover. Lines of trenches have been established in this way eighty yards from the enemy.

Entrenching in the dark should also be practiced.

Whenever possible trenches should be cited so that they are not under artillery observation. An extensive field of fire is a secondary observation.

Trenches should, therefore, be cited having regard to possible "observation stations" on ground occupied by the enemy, and not solely with regard to the possible artillery positions of the enemy. In open country it is better to select a position behind the crest of a hill.

This compels the enemy to expose his infantry to our rifle and shrapnel fire and affords his guns little opportunity of observation. Fire trenches should be recessed and traversed. They must be deep, narrow and of low command. Traverses should be provided every four yards to localize the effect of high explosive shell falling into the trench, and also to give protection against enfilade fire. All excavated earth should be concealed. The back blast of high explosive shells must be provided for by placing earth behind the trenches. Drainage must be provided. Making head-cover and over-head must be practiced as this cover is used to support trenches when they are not likely to be rushed. With over-head cover a continuous loophole is the best form.

When blown out of one's trenches it is necessary to fix bayonet and retake them regardless of what it may cost. Parties must be collected at once to do this. Men must never lie down when making a counter-attack but all must be trained to attack regardless of life.

Cover may conceal from view or it may afford protection. It is most useful when it both conceals and protects. Cover which only conceals from view should be avoided if it forms a conspicuous target at short ranges to the enemy.

When under artillery fire no cover should be taken which, even though it may protect from rifle fire, forms a conspicuous target to hostile artillery.

Similarly under artillery fire all well defined objects such as buildings, etc., should be avoided as they become death traps.

Cover is not only useful to afford protection and concealment but every advantage must be taken of it to rally and reorganize, to check and to replenish the expenditure of ammunition and to make plans for a further advance.

Whenever a flank is exposed a small patrol should be detached to guard against surprises. Such a party may be eventually of great value in reporting any movements of the enemy connected with surprise and in observing the effects of fire and nature of ground in front.

Passing orders must be practiced by word of mouth from man to man and to ensure that the orders has been understood it will be passed back to the commander in the same way.

Judging distance should be practiced. It can be practiced by troop leaders with their men during a march. The practice will in addition teach men to observe, a habit that cannot be overestimated.

One distance should be accurately known and that is 600 yards. It is at this distance that rifle fire begins to take deadly effect.

Long range fire should rarely be opened without special permission of the regimental or squadron commanders.

The advantages of retaining fire and surprising the enemy should be impressed upon all ranks by day and night.

Fire discipline means strict attention to the signals and orders of the commander, combined with intelligent observation of the enemy. It assures the careful adjustment of the sight, deliberate aim, economy of ammunitions and prompt cessation of fire when ordered and when the target disappears.

Troop leaders and sergeants carry rifles and bandoliers but they must remember that their duty is to command and not to shoot.

It is the duty of all ranks so to husband and economize their ammunition as to have the greatest possible amount in hand to meet and overcome a crisis.

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The men assist in regulating the expenditure of ammunition by never firing without orders and never obeying the order to fire if they are so posted as not to see the target.

Men must be reminded that it is often a very difficult matter to replenish the supply of ammunition during the advance without causing heavy casualties to comrades employed in this duty over fire-swept ground.

In the trenches rifles should be inspected three of four times daily.

Magazines will always remain charged but in standing billets one clip only should be inserted. Magazine springs should be frequently pressed up and down to keep them elastic and in proper order, but the spring should never be oiled.

The duty of a fire unit commander or section leader consist in:

(1) Carrying out such orders as he may receive and using his own discretion in the absence of orders.

(2) Indicating targets.

(3) Regulating the volume of fire.

(4) Issuing orders as to sighting and seeing to the correct adjustment of sights.

(5) Checking the expenditure of ammunition, reporting it when running short, and arranging for its replenishment.

(6) Taking over the spare ammunition of casualties.

UNCLE SAM'S FOUR-FOOTED FRIENDS.*

By Major CHARLES D. RHODES, U. S. Cavalry.

HERE it comes,—the troop herd. First a tiny cloud of dust, far out on the grassy prarie, growing larger and larger and mounting higher and higher with each moment of observation; then, as it approaches nearer, vague outlines begin to take tangible shape, and soon we can distinguish at intervals tossing heads, waving tails, and bodies glossy with exercise; while beneath all is a mass of quick-

*Extracts from an article in *Lippincotts Monthly* Magazine, December 1.

moving legs which make the ground fairly tremble under the shock. How happy and impudent they appear, as they rush along after the mounted soldier at their head, often pressing him so closely that he partly turns in his saddle and waves them back! They have been out since early morning drill, in charge of their cavalry guard, and, like so many jolly school boys on a holiday picnic, have rolled and romped and nibbled at the sweet young prairie grass to their heart's content.

Here passes one, covered with clinging mud from head to foot—a condition which will doubtless cost him a good-natured reprimand from the soldier who is to groom him. And here comes another, kicking wildly to right and left, and causing the horses to his rear to give him a wide berth. On they go toward the troop stable; and as they turn into the post, the guards gallop ahead and spread out on the flanks, to prevent any bold individuals from trampling on the grass of the well-kept parade and thus incurring the colonel's high displeasure.

This is early summer, and the horses' wild spirits have been somewhat tamed down by the regular daily exercise of herding, drills, and parades. Had it been earlier in the season, when the animals, restless from their all-winter confinement to stables, were first taken out in the cool, nipping air of early spring, they would have appeared far more unmanageable. Then it not infrequently happens that the excited fellows, happy in their freedom and fairly boiling over with pent-up desire for exercise, go charging past the flanking guards, and in a mad rush, fairly bearing the leading cavalryman along with them, break into a wild stampede, which sometimes goes on for miles and miles, and, taking a circular course, often ends at the door of their own troop-stable, where the guilty truants stand passive and perspiring, as if heartily ashamed of their boyish prank.

When herding is not practicable, and, indeed, during most of the long summer days, the herd is turned loose in corrals adjoining each stable, where free from restraint, they can run, roll, and play as much as they please, within the limits of the high picket fence. In the corral they again

remind one of a crowd of rollicking boys, for there are generally two or three bullies among the horses, who go about, biting and kicking their weaker fellows, until taught their proper place by some inoffensive, sleepy-looking comrade.

A new horse turned loose among these animals is treated exactly as a new boy entering a public school for the first time. The old horses immediately trot up, examine him critically—possibly sizing up his physical and mental abilities—rub noses and bite him; and the new acquaintanceship generally ends in a succession of kicks, in which all the bystanders take part; so that a strange horse carries about with him a generous share of cuts and bruises during these first days, or until he demonstrates his ability to take care of himself and fixes his place in the social scale of horse society.

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Just as with human beings, a change of climate disagrees with many horses, and the alkaline water found so extensively throughout the West is at first generally distasteful to them so that, I have no doubt, they many times wish themselves safely back in their Eastern homes.

In this regard, I remember very vividly one of my first experiences. I was sent from a remote army post in Wyoming to the nearest railway station, over a hundred miles distant, to bring to the post a car-load of horses shipped from Iowa and Nebraska. After disembarking them safely from the car, each one of my little detachment took two or three horses, and, as water was very scarce at the dimunitive frontier town, we started at once for our first camp. But what was my dismay, that evening, to find that not a single one of my charges would either eat or drink! As this was one of my first trips in charge of a detachment, I was especially anxious to acquit myself with credit; so that the strange behavior of the horses filled me with alarm. I had brought along in a wagon an abundance of fine oats, but not a single horse could I tempt to eat, except mincingly, as sick children sometimes toy with their food. And with the water it was much the same way The horse would lean downward toward the alkaline stream as though to drink,

sniff at it with disgust, and turn away with an air which plainly said, "That may do for such creatures as men, but not for us."

This alarming state of affairs continued during three hot day's march through the famous Bad Lands of Wyoming, and the poor animals began to look thin and worn; worse still, they became so weak that I greatly feared lest many of them would never make the trip alive.

But at the close of the fourth day I camped near a hospitable ranch, the first we had seen for several days, and what was my delight to discover that the owner had a fine grass pasture near his house, enclosed by a wire fence! That night, with the owner's permission, I turned all the weary horses into this Garden of Eden, and their own pleasure hardly exceeded my own as I watched them nipping the cool, appetizing grass, the first we had met with on the long ride. It seemed to these Eastern-bred horses, I suppose, like a bit of the homes of their boyhood, dropped down from the sky into that barren land.

In the morning they were like new horses. The remainder of the journey was completed that day without mishap; and I have always firmly believed that the little grass pasture saved the lives of a number of my helpless, long-suffering charges.

In a cavalry troop there generally grows up between each horse and his rider a strong bond of sympathy and friendship. Soldiers in the cavalry service are in most cases stationed at remote Western posts, where, far from home and friends, and as a rule unmarried, they are necessarily very limited in their social pleasures and amusements. On this account, perhaps, the propensity for having pets of various kinds is very strongly developed, and increases the sense of fellowship between the horses and their riders. Cruelty or inattention to the wants of their horses is a rare trait among cavalrymen; and even should this be the case from the feeling of proprietorship, cruelty from one soldier to the horse of another would be resented as an injury to the owner himself.

This comradeship is more in evidence upon a long march, or while in the field, engaged upon some arduous or dangerous duties. On such occasions when, forage often becomes scarce, cavalry soldiers will jealously guard every grain that their

horses receive; and should the sergeant, through carelessness or prejudice, give a trifle more or less to one than the other, it often provokes a vast deal of grumbling—so closely is the trooper interested in the welfare of his horse. When lariating the animals out to graze, neighboring troopers will often have many a friendly controversy over the ownership of a choice bit of prairie for the use of their four-footed friends.

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Have you ever thought how difficult the scientific treatment of animals must be? Although it is commonly supposed, and in most cases rightly, that animals are more hardy and can thus bear more experimental surgery on their bodies than their human superiors, the fact that they are poor dumb beasts and cannot describe their many pains and aches makes intelligent veterinary treatment very complicated.

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Although we have from time immemorial looked upon the horse as man's best friend, there is another one of Uncle Sam's four-footed friends who in this regard is entitled to a few words of praise. Indeed in many ways he has aided the government more than the horse. I refer to that intelligent, hardy, long-suffering, and most useful creature, the army mule. We have been so long accustomed to treating this valuable friend with contempt that we scarcely like to confess that the mule is more intelligent than the horse; and yet this is generally the case. Moreover, the mule certainly requires less food and less care, and can do more real work, than his aristocratic comrade.

Mules are purchased for the army much the same way as horses, and when sent to the army posts are used as either draught or pack animals. In both capacities the army mule is a powerful adjunct to the successful operations of troops; and, however, much a soldier prizes his horse, it is to the generally despised mule that he looks for the sinews of war—his supplies. Doubtless many soldiers would rather be killed by the bullets of an enemy than be starved to death for lack of supplies.

The pack mule is especially useful in moving supplies through a rough and precipitous country, threaded by narrow trails only, where his sureness of foot is to be relied on. With skillful packers a pack train can ordinarily follow a cavalry troop quite closely, even when the latter is making rapid marches. It is a very pleasant thing, when one arrives in camp in the evening, tired, cold and hungry, to find the pack mules near at hand with tents, rations, and cooking utensils, instead of having to wait many hours for the arrival of slow-moving wagons.

An amusing incident once occurred to me, my first experience in loading a mule. I had ridden a saddle mule out on an antelope-hunt, and after sighting a small herd, lariated my mule, and, after much crawling on the ground, succeeded in killing a doe. As I was four or five miles from camp, I determined to fasten the game to the cantle of my saddle; but, try as I did a dozen times, I could not get my mule within a dozen yards of the antelope's dead body. At last I hit upon an expedient. I took off my blouse, and wrapping it securely about the mule's head, tied the sleeves fast, so that she could see nothing. I then lariated her securely, driving my picket-pin deep in the ground, and dragged the antelope near at hand. After repeated trials, during which my mule snorted impatiently but stood fast, I threw the game over her back and strapped it to the saddle. Upon removing my blouse the mule remained perfectly passive, and with much satisfaction I mounted and rode towards camp. All went well until within sight of the tents, when, as I had to cross a small ravine, I thought it prudent to dismount and lead. I did so, but the antelope, which had tipped to one side, unfortunately went still farther, and in a twinkling antelope, saddle, and blanket had slipped about under the body of the frightened mule. I held manfully to the bridle rein, but for three or four minutes I could scarcely distinguish antelope from mule, as the latter frantically endeavored to kick off the unexpected encumbrance. With rare good sense, she did not attempt to run,—a proceeding which would probably have resembled the antics of a dog with a tin can tied to his tail; and when she at last became quieter, I patted her gently, and, keeping at a respectful dis-

tance from her heels, managed to loosen the *cincha* of the saddle. In another moment the trembling mule was relieved of her burden, and I had the antelope carried to camp by some soldiers.

An army mule's reasoning powers are wonderfully developed, especially with respect to distance and locality. Once only have I seen them at fault, and the mistake cost the poor mule her life.

A small detachment of us, accompanied by a pack train were descending a very rough trail leading down from a high mesa on the Navajo Indian Reservation in Northeast Arizona. The pack train, quite heavily loaded, was slowly filing down the narrow and rugged descent ahead of us, over the edge of which was a sheer fall of several hundred feet. One of the mules, loaded with two large bales of hay ran out on a small ledge adjoining the trail, and, seeing her fellows immediately below, concluded that she might join them by a short cut. The distance was trifling, and slowly bending her knees, she jumped. Unfortunately, although probably conscious of the width of her own body, she had forgotten her increased width due to the presence of the two bales of hay. As she alighted accurately on the trail, the edge of one of these bales struck the side of the cliff, and in another instant the poor animal was whirled down in the abyss below. Her faithfulness deserved a better fate.

A remarkable illustration of the development of an army mule's "bump of locality" occurred upon another scouting trip, this time in Wyoming. We were making a reconnaissance through the Big Horn Mountains, and, by a roundabout ride of several hundred miles, had reached the vicinity of Cloud Peak, in the center of the range. Not a road, not a ranch, not even a sign of civilization, had we met for miles. The snow-peaks loomed above us, their lower slopes covered with impenetrable pine forests. Everything was as wild as nature had made it. barring a few faint trails, leading one knew not whither, Seventy-five miles across the mountains was the army post which we had left many days before.

Among our pack mules was one who, on a fishing trip several years before, had visited this very locality in which

we were encamped; but she had come, the previous time, the straight route over the mountains. What was our amazement, one morning, to find this mule gone, and with her two of her comrades, whom she had evidently led astray! Hunt high and hunt low, we could not find them, and after wasting several days in this furitless search we set out for home. Upon arrival there we were surprised and delighted to find that the mules had preceded us. The old mule had at once recognized her previous camping place, changed though it must have been by the severe storms to which this region is subject, and had determined in her wise old head to strike out for home immediately, without waiting for the formality of carrying a pack. And this she and her campanions, ill advised but evidently not misguided, did; not following the trails, for we had carefully inspected them, but heading through the dark and confusing forests, as straight as though directed by the unswerving needle of a magnetic compass.

THE RECONNAISSANCE OF COURGIVAULT.*

By First Lieutenant E. E. FARMAN, Jr., Second Cavalry.

THE provisional brigade which has just been formed by our regiment and the —th Chasseurs d'Afrique has been united at daybreak by our colonel, who has taken command. The regiments are formed in masses behind the shelter of a crest, upon which one can see the vedettes looking attentively towards the north. The sun lights up splendidly the picture made by the bright uniforms of the dismounted men and the immobile ranks of the horses. Both men and animals are still dozing.

*Translated from the memoirs of a French Cavalry Lieutenant. This gives in detail the conduct of patrols as carried on after over two weeks' experience in actual warfare. See Book Notices—"In the Field."

The colonel has gathered together the officers in front of the squadrons. In his hand he has a paper which he proceeds to read with a resounding voice which is unusual for him. At the first words we have instinctively closed in around him. When he has finished we are overcome with astonishment. Were we not told yesterday again—while, with the rear guard of the —th Corps, we were crossing the Grand Morin closely pressed by the advance guard of the enemy—were we not told that we were to retire to the Seine? And now in a few simple and noble words the General in Chief informs us that the trails of that dreadful retreat are over and that the day has come to take the offensive and he promises us victory.

We rejoin our squadrons. Our joy spreads rapidly to all the trooper who at once understand. The weariness and fatigue of two weeks of retreat are forgotten, nor do they consider the fact that their horses can hardly carry them nor that many would be unable to take up a gallop. What matters that?

"Captain and officer to the colonel," comes a message. Bravo, it is my turn; a few words of congratulations from my comrades who shake hands with me enviously. The Colonel, map in hand, explains in a few brief words what he expects of me.

"Direction of Courgivault. See if it is occupied. You will report to me on the road which runs directly from here to the village. The brigade will follow you in one hour by the same road. I am sending two other patrols toward ———."

A moment later I am on the road to Courgivault. From my platoon I have chosen a corporal and four good men, who have already shown their worth. In front of me, well seated upon his horse Cabri, whose powerful croup towers above the high oats, is Vercherin in the lead. I have entire confidence in his vigilance and skill. I know that if it is possible to see anything he will see it better than anyone, and his zeal needs no stimulating.

On my right and left, well spread out as foragers with wide intervals, are Corporal Madelaine, Finet, Lemaitre and my faithful orderly Wathelot. Experience has been obtained since the beginning of the campaign. We now look out for Prussian bullets, knowing their ravages as soon as our troopers are

impudent enough to close in together. Extended, our chances will be better.

The weather is magnificent. What a joy to live in the midst of such beautiful nature, our hearts filled with the hope of victory! (The following two pages, omitted, show in what fine spirits the troops were and how good their morale after two weeks of continual retreat.)

In front of us nothing. Behind also; there is complete silence. Yet I know that there is a whole army awaiting the information we shall send them before marching to battle, and by this report of mine our movements will be decided. I know that behind that fold of ground lies all my brigade impatient to attack, behind them, lying by sections in the furrows, are thousands upon thousands of infantrymen and that hundreds of cannon are ready to belch forth death. But this well-disciplined multitude is silent.

I feel full of joy; it is upon us that so many rest their confidence, upon us that so much depends.

Before taking the trot I have consulted my map and have seen that the road to Courgivault passes through two woods, not deep but extending for some distance at right angles to the road.

Now, at the bottom of a rise over which we have just come, about 500 meters off, I see one of these woods. By voice I stop Vercherin who was already pushing on towards them, for now I know how many men have fallen for having acted in like cases as we do at maneuvers, where the enemy is represented by some jolly comrades with white bands, and blank cartridges take the place of bullets. We soon *learned through the Germans* themselves how to reconnoiter a wood or village and also how to guard them.

How much more "dashing cavalryman" it would be to rush forward with drawn saber right among the first trees. But I know by now that if it is occupied by the enemy, their men are flat upon the ground, utilizing the trees and bushes to conceal themselves as much as possible. Not one of us would return.

We have to use against them their own tactics of mounted infantry. Good-bye the fine charges! It would be insane to

remain a dashing horseman against people who are not and do not wish to be. We would be fighting with unequal arms and too many have paid with their lives the desire to fight *á la Lasalle.*

With my glasses I search the edge of the woods carefully to see if no bush moves, if no limb is carefully pushed aside by the hand of a too impatient soldier. My men, attentive, in poses that would have delighted Neuville, their carbines in the hollow of their arm, are watching and listening with the greatest care. Nothing! I call Vercherin's attention by a slight whistle. The silence is so complete that he hears it and, understanding, advances step by step, holding his carbine well up, and enters the wood by the path.

For an instant, while I watch him enter, my heart throbs. Now I breathe freely. We enter, each by a different place and pass through as fast as possible. Upon coming out on the other side, I see with pleasure my four brave companions who emerge at nearly the same time, each one watching me. On the crest beyond, near a lone tree, is the motionless figure of Vercherin.

We soon rejoined him and, from his slight elevation, we see on the next ridge the second woods we have to cross and which hides from us the village of Courgivault, two kilometers beyond. I feared greatly that this second woods would be used by the enemy to form a redoubtable line of defense, so it was with even more precaution that I had it approached. We found it unoccupied like the first.

I then expected to immediately see Courgivault, but a fold of the ground still hides it. I make use of this shelter to have all my men advance without danger of a shot. Then, always preceded by Vercherin, we come out on the plateau upon which is the village.

Those who have been in like positions understand the short moment of emotion one feels when, all of a sudden, one perceives a few hundred meters beyond the end of one's mission, the decisive point which one must reach at any cost; the place where one is almost sure tc find the enemy, where one feels that he sees one, is watching for you and waiting the opportune moment to shoot at point-blank range.

I stop my men an instant. In the midst of green fields, dotted with apple trees here and there, extends the edge of the village, a group of buildings, some appearing to be large farm houses, others those of humble peasants. The tile roofs form a reddish mass, above which rises the tower of the church. With my glasses I can see the face of the clock and tell the time—six fifteen.

This clock appears to be the only living thing in the village. In vain one might look among the surrounding gardens and orchards for the peaceful movements of village life.. Yet it is the hour that all should be moving. Has war driven the people away, or is it the rough Prussian boot which holds them prisoners, hidden in their cellars?

Yet, from here nothing would indicate that the village was occupied. One can see no works of defense, no barricade, no sentinel behind the haystacks or trees.

On the south of the village, towards us, is a large farm building which would seem to form a bastion were Courgivault a fortress. The walls around the farm buildings are white and high, and at one end is a round tower which completes the appearance of a miniature donjon. The road we have followed seems to wind through the fields and pass in front of this outwork. Opposite one can guess that there is a perpendicular road which is shown by a row of trees, and alongside the road are a dozen large stacks, as though arranged in battle line facing us menacingly and guarding the approach to the village.

The silence is more tragic than the noise of battle. It gives the impression that the two armies have each retired away from us who remain alone, isolated a hundred miles from either.

But it is time to finish. Upon a sign from me Vercherin reaches the first tree of a long row of poplars. This line starts from the farm and borders the road which we follow to within a hundred meters of the first wall. By advancing from one tree to another he can thus approach in relative security. Suddenly he stops and, standing up in his stirrups, looks straight ahead at the stacks.

It is not necessary for him to make the least signal, for I understand that he sees something and in a few strides at a gallop I am beside him. Though as calm as usual he speaks a

little fast, "Lieutenant, there behind that stack it seemed to me that something moved, a head was raised above the grass." I look in the direction he points with his carbine and see nothing, but our two horses seem suddenly to be taken with fright and whirl. With a vigorous blow of the spur I bring mine back and take my glasses for a closer inspection. Vercherin rejoins me.

Just as I raise the glasses to my eyes, there suddenly arises in front of me, at less than a hundred yards, a whole line of skirmishers, dressed in gray, two or three hundred of them perhaps. At the same time a formidable fire breaks forth. Hidden in the grass along the road they had been watching us, and the admirable discipline which makes their strength, kept all from moving, only the "Hauptann" who commands them looked out from behind a stack and him it was whom we had seen. Had it not been for the prudence derived from experience, not one of us would have escaped. Fortunately every one of my men had kept the place assigned him and not one moved under the volley.

I make a signal, quickly understood. Each one wheels about and at an extended gallop makes for the slight hollow which concealed our advance. Though followed by a hail of bullets, they are aiming bad, we have nearly reached the shelter, when I see the horse of Lemaitre, Ramier, on my right, fall. Rider and horse roll on the ground, the latter is up quickly and moves off at a limping trot. Lemaitre is soon up, a little stunned, he looks at me and, brightening up, he answers my query "Nothing broken, sir." "Trot along then" say I, and off he runs, jumping ditches with an agility I would not have thought possible. 'Tis strange how a volley will give speed to a dismounted trooper. Finet brings back the horse which he has caught. He is limping badly; a small hole is seen where the bullet entered. "Remain here" I say, "I shall be back in a moment." I wish to see if there is anything of interest to be seen on the east of the village. Turning towards my other men, I see that Corporal Madelaine's face is covered with blood. 'It is nothing, Lieutenant, a bullet grazed my nose." But his, horse was wounded, so I sent him on foot to go with Lemaitre beyond the woods, and with the other three attempt to approach

Courgivault from the right. But they do not let us approach; as soon as we appear, they receive us with a violent fire. There is no more doubt, the village is occupied in strength.

Under shelter, I quickly dismount and while Finet and Vercherin, a hundred meters apart on the crest, keep a good lookout, Wathelot holds my horse. The message written, I give it to my faithful Wathelot. "To the Colonel quickly. I await the brigade here." While my two vedettes watch, I rejoin the men with the wounded horses. One of the latter I am obliged to shoot. The man packs his equipment on his back and the other leading his horse, they return towards the rear.

The village remains silent. Suddenly a platoon of foragers comes out of the woods behind me. They are Chasseurs d' Afrique whom I recognize by their numerous white horses. Nearly at the same time a loud report announces that our guns have come into action against Courgivault.

The battle of the Marne begins.

This article is much abbreviated, but nothing essential is left out.—*Trans.*

THE CINDERELLA OF THE SERVICE.*

THE WORK OF THE ARMY VETERINARY CORPS.

WE read in the recent reports of the Great European War that the cavalry has, for the time being, at all events, had to do the work of infantry, and some of us have run away with the idea that horses are therefore unnecessary to a modern army, especially since mechanical haulage has, to an extent, superseded horse draught. This view is, of course, entirely erroneous, because there are countless tasks for horses which

*Reprinted from *The Nineteenth Century* for August, 1915, by the kind permission of the publishers.

motor traction could never perform. Cavalry and artillery horses especially, when ploughed land, ditches, or hedges have to be negotiated, must always hold their own, in spite of the modern march of "caterpillar-wheels," motor cars, motor cycles, and armored trains.

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A merciful change of view has come. In former campaigns the agonies and wastage of horses were recognized and commented upon, but little or nothing was attempted for their amelioration. During the Crimean War, for instance, or, more recently in the South African War, the price paid by the horses and mules employed, and the awful sacrifice of animal life, were hardly reckoned with, or, if recognized, were only treated as part of the terrible consequence of human warfare. Things have changed; people have become actively interested in the question and instead of merely registering a verbal regret at the horrors which seemed to be necessary, they have put themselves to personal trouble and expense to mitigate the sufferings of the animals involved in the great struggle.

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A vast amount of ignorance exists about the treatment and the ultimate fate, too, of the horses at the Front, which should be dispelled, if only out of fairness to the work of this Corps, which is some times looked upon as an unnecessary result of an oversentimental age, and which has, in the past, been treated as the Cinderella of the Service. I would that the general public could be privileged, as I was, only a few weeks ago, to visit the various A. V. C. hospitals in France, and watch the work which is being done by those men who are not only horse doctors, but horse lovers also. Whether we look at it from an economic or a humane point of view, it must be granted that it is a magnificent work to prevent unnecessary wastage of animal life; economically, because every horse cured and saved means another weapon in the fight; humanely, because it is only paying some part of the debt we owe to those horses which we have taken and used to our own ends.

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My recent visit to these horse hospitals in France must always stand out in my memory as one of the most interesting and inspiring experiences of a not unvaried life. And the general impression, after inspecting eleven such special centers of veterinary activity, is one of immense admiration for their organization of the Corps, and the ability, energy and humanity of its members. Naturally, each hospital has some special feature—due either to the nature of the ground or to the individuality of the officer in charge.

The first hospital visited gave me a fair idea of what was to be seen at each of the others, but with each subsequent visit I was better able to gauge and appreciate the wonderful human mechanism, which makes the whole work of the A. V. C. move so smoothly and be of such economic value. Ground had, of course, to be selected which would best suit the purposes of the work, and countless and unexpected difficulties had in each case to be overcome. During the whole of the last winter, one continued fight against rain, with its consequent mud and attendant ills for the horses, had been made, and though I was fortunate in coming at a time when much of the ground had dried and settled, I could in a small measure realize the havoc of the wet by an experience of one day's rain on the clay soil of Northern France. Slipping and sliding about on soil which had, with infinite trouble and skill, been drained by members of the Corps, whose special genius for such necessary labor had been discovered by a far-seeing commanding officer, I wondered how order had come out of what must have seemed at first irreducible chaos, made many times more difficult because horses—sick, debilitated, and wounded—had, at the commencement, been arriving daily, before even the stables were ready for their reception. Everyone with a knowledge of horses will understand how the ground must suffer, when these animals have to stand in the open on clay soil which becomes churned into a sea of mud after a short time. In some places the able Director of Veterinary Services—and it must not be forgotten that the well thought-out schemes for hospital distributions were rudely upset by the retreat from Mons and the shifting tide of battle—was fortunate in discovering brickfields with drying sheds, or disused mills or kilns, which, after a vast amount of cleaning,

have served as admirable shelters; but the difficulties, at each and every place, of providing shelters for 1,000 horses have had to be conquered by that innate quality of facing and overcoming impossibilities which has enabled Britons to become successful colonists. Here in the covered stalls—specially made or converted—stand the horses who have suffered in battle, and have passed through the hands of the various mobile section at the front to be sent on as needing special treatment.

They have come from railhead in trains used on the up journey for conveying men, commissariat, ammunition, fodder, etc., to the front, and they go by a different route, so as not to interfere with the constant outward bound traffic, or be themselves unnecessarily delayed to make way for such trains. Accompanied by railway conducting parties to attend to their needs *en route*, they arrive in batches of 250 or more at the particular hospital on the line of communication selected for their reception. Here they go through the Mallien test for glanders before they are drafted into the wards specially put aside for their ailments, and if they are suffering from any infectious disease they are isolated in separate stables and are looked after by a special staff who see that rugs, brushes, head-collars, feeding and drinking utensils are periodically disinfected. They are placed in roomy stalls with shelter overhead and at the side, and with a good deep manger running the length of the stable. In some hospitals hay-racks are employed; in others hay-nets, which are hung at feeding time over the stall. The latter way of feeding is certainly more expeditious, as it enables the men to fill the nets at the forage barn and take them direct and ready to the horses. Each horse is divided from his neighbors by a good bail-bar, and the tether rope is long enough to enable him to lie down. In the case of a horse suffering from pneumonia, two stalls are turned into a loose box, and here the poor animal can rest undisturbed. The open-air treatment for such cases seems to have very happy results, and, in some hospitals, to ensure their not being disturbed or taken to water, a white tape is loosely tied around their necks.

At these hospitals, which have been specially built, the twenty wards or sheds, which can each take fifty patients, are either built of iron or wood with galvanized iron roofs. Be-

tween each building is a good bit of ground, utilized by the staff either for grass, or, in some cases, for flower gardens, and this space ensures plenty of air and sunshine—both essential to a healthy recovery—while the overhanging eaves of the buildings give protection from the rain. The cinder-paths and roads which give access to the stalls are well drained and, in many cases, made up either of old railway sleepers or faggots, so as to ensure dryness, as far as possible, in the event of another winter campaign similar to the previous one.

The standing for the horses seems to have been an unending difficulty, for, as horse-owners are aware, the animals get restless and paw up the ground, particularly when they are unable to be exercised regularly, as is often the case when under treatment in Veterinary Hospitals. Therefore every resource of ingenuity has been utilized—bricks in some places, pitch and stones in others, or bricks and sand, and, wherever possible, railway sleepers or split trees covered over with sand.

With an amp e supply of water—in many hospitals kept in troughs at the end of each building—roomy stalls, dry standing, and excellent fodder, these victims of war have every chance of recovery. When the weather and their condition permit they are tied by breast-lines in the open, or are turned out in the roomy paddocks, where they have every opportunity for exercise and grazing. Each hospital also has an exercise track made in a circle, surrounded on either side with strong wooden palisades, around which those requiring exercise are driven. In the center of this is a sand bath for the mules, and here they can roll about to their hearts' content. Mules require a good deal of handling, and great care has to be exercised in bringing them together. They have to be introduced gradually, otherwise the old campaigners, very much after the manner of the older boys at school, are apt to make the lives of the new-comers a burden to them until they show what stuff they are made of. It is gratifying, and often amusing, to watch the heavy draught horses who, under ordinary circumstances, would spend their leisure after a hard day's work in stuffy stables, galloping round the fields or rolling on the ground with glee at their unwonted liberty. Thus turned out to grass—having been carefully sorted out so that the heavy and strong shall not oppress

the weaker ones—with their hind shoes removed to prevent injuries in their frolics, they become hardened and fit, so that when, after being exercised on the roads to remind them of their former work, they are returned to the Remount Department, they are really more suited for the work than when they first arrived from England.

This acclimatizing process has been found to be so successful from an economic point of view that, while the present methods of warfare permit, the newly arrived horses are kept at No. 2 Veterinary Hospital or at the neighboring Remount Depot so that they may recover from the sea journey, which, short though it may be, takes away from their condition and strength.

At this particular hospital, one of the first to be specially built, the conditions are ideal, though during the winter both men and horses suffered from the weather and its results on the soil, and many of the fields still have the traces of the sea of mud which seemed almost impossible to remove. With horses standing sometimes up to, and even beyond, their hocks in mud and slush, and with men soaked through from morning till evening, the work must have been indeed disheartening—and this, from all accounts, was the condition of things generally. But on the occasion of my visit one could only see the wonderful results of the patient and constant combat against difficulties, and the hospital, with its wards, forage sheds, operating sheds and pharmacy, men's quarters and dining rooms, etc., looked a town complete in itself. I could understand, as our motor zigzagged up the steep hill, on the top of which the hospital is placed, the immense need of a motor ambulance to bring the debilitated patients from the docks to the ward, and I was thankful that the Home of Rest for Horses at Cricklewood had, through the generosity of its subscribers, been able to send a motor ambulance fitted to take two horses. I was proud also to see here, as at all the other hospitals, that the R. S. P. C. A. Fund for Sick and Wounded Horses had been able to provide many aids to the good work, besides building hospitals to accommodate 2,500 patients. Corn-crushers and chaff-cutters, driven by petrol engines, and capable, for instance, of cutting two tons of hay in three hours, are, by this means, installed at

each of the hospitals. Horse ambulances have also been sent to each, so that the tired or injured animals can be brought with little or no pain from the railway stations to the hospital and I feel sure, if the many subscribers who have, by their generosity, enabled the Royal Society to give such assistance could only see the practical work that has been done, they would feel that their money was well spent. Everywhere I went I heard appreciation of the gifts which has been sent out through this Fund, and it made me proud that Great Britain, the mother country of all humane work for animals, had initiated a method of caring for her sick and wounded horses which might well be a model for the guidance of every other nation.

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At all the hospitals which I visited it was the same story—now that the fine weather had come and the ground had been well drained, the horses had their chance. And in spite of all the winter had meant to them, and to the men, they had all stood the hardships wonderfully well. The death-rate was exceedingly small and was constantly decreasing, and the condition of the horses from the front was also greatly improved. Quittor cases, which had formerly been difficult to treat when the animals had stood in puddles or mud-pies, could now be bandaged properly and would soon yield to treatment; skin diseases and parasites were decreasing, and the wounds were healing under the good influence of sun and fresh air. There was a spirit of cheerful competence which made one feel that, so far as the horses went, all was well in hand, and the ample supply of corn and excellent hay spoke volumes for the transport and forage organization which made it possible to obtain abundant supplies from overseas. Even when face to face with the stupendous difficulties of the early part of the campaign, the work done by the Army Veterinary Corps was amazing.

During the whole course of the war (wrote the correspondent of the *Daily Mail*), especially lately, one arm of the Service, into which I have been able to get some insight, has surpassed itself. It is the Veterinary Corps, which was first formed after the South African War. This Corps has dealt with some 27,000 horses, probably more, up to date, and it has saved the lives of thousands of animals, of which many would have been condemned as incurable even in time of peace. The other day one of the quite young hands

picked up somehow a German horse with three bullets in its shoulder, and, rather against his superior's advice, operated successfully, extracted the bullets and in a surprisingly short time the horse was as fit as it could be. Some of these young men have indeed developed a real talent for quick and efficient surgery, even under fire.

The care of the horses has been remarkable all through the War. The Germans must have lost four horses to our one simply from want of care in unsaddling and removing harness and feeding. But, apart from this, the Veterinary Corps have saved their thousands by medical skill and organization. It is hard work, but they have their rewards in many amusing incidents. One is worth mention. A young soldier brought in one day a German horse of which he was very proud. "You couldn't breed a better in Ireland," he said, "and every bit of leather is new." The veterinary sergeant, even before he saw the marks, recognized the horse as English. It had been lost and taken by the Germans three days earlier, and had now come back with brand new saddle and bridle and only a scratch to be healed. Incidentally the episode suggests the astonishing perfection of German equipment. It is only in human—and perhaps humane—things that they fail. That horses and men are not machines escapes them.

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It is illuminating to watch the arrival of these new patients from the front and contrast them with the conditions of those who have already been successfully treated. The drooping head and lack-luster eyes, the rough and dirty coat, the staring ribs, the upheld foot, the sore and irritating skin, and often, too, the hideous wound, tell their tale of suffering patiently borne, which appeals at once to the keen soldiers who are there to remedy the various ills, to cleanse and heal the torn flesh. Skin diseases, quittors caused by nail-pricks, suppurating corns, frost-bites, or ulcerated legs from constantly standing in mud or water; swollen hocks, broken knees, saddle or girth galls, etc., are the common ills to be dealt with; but pneumonia and chills are frequent causes of trouble, and many horses arrive so lame and "done-up" that only a rest cure at the Convalescent Horse Depot will put them right. Many cases of wounds from shrapnel, jagged bits of shell, or bullets arrive also, and these often necessitate complicated operations. Many a fine horse with a shoulder or quarter torn or punctured by a bullet stands in the line waiting to be attended to. All cases which necessitate operations are treated with a care formerly only given to human beings; while those to which painful dressings have to be applied are spared pain by the application of local

anaesthetics. Each animal to be chloroformed is, after becoming unconscious, cast on a specially prepared operating-bed, made of sacks stuffed with hay, fastened together and covered with sailcloth. Here the surgeon performs the operation with quickness and dexterity, and is assisted by men who watch the patient and, if necessary, are ready with another dose of chloroform. All seem equally keen on the success of the operation, and proud of the ultimate recovery of the animal. Having seen such operations performed, I can echo the remark made by a friend, who said that, should necessity arise he would gladly be operated on by a modern veterinary surgeon, for they are as far removed from the old-fashioned horse doctor as the modern surgeon is from the "sawbones" of the past. So, too, is the modern pharmacy with its sterlizing boxes, its disinfectant sprays and countless instruments, all scrupulously clean and orderly, different from the old-fashioned and very dirty collection of instruments of torture which more often brought death than recovery. Here, with everything in its place and with a constant supply of drugs sent from the base veterinary stores, one understands the change which has come over the whole profession, and has brought it into line with its elder brother, that of the physician and surgeon for human beings.

The arrangements for the treatment of the horses are almost as elaborate as those provided for the wounded troops, and include a Convalescent Horse Depot, where the recovering animals, like human patients, lead an open-air life and have special feeding. Situated in the richest grazing country in Northern France, and covering an area of something like twenty miles, the patients, some resting from the too often necessary overwork and strain which produce debility, others recovering from the wasting effect of bad wounds, injuries to their feet, or skin disease, can graze at will amidst ideal surroundings, sheltered from cold winds by high hedges, in paddocks with an ample supply of good, fresh water. Constantly under the keen eye of an A. V. C. officer and a staff, which on War Establishment should be 404, these horses, some 5,000 or more, grow sleek and are cared for as though they were candidates for some local horse-show. Here, too, are shelters built from the R. S. P. C. A. Fund for those that need special care; "skin lines" for those

whose troubles in this direction have not been completely cured, and handy little enclosures for other horses who need extra watching or diet. Here, as everywhere else, were sad-looking animals, weary in body and mind, but I think the most pathetic were those poor artificially reared creatures who wandered aimlessly about in the rich land, unable to grasp the fact that the grass was to be eaten, and who had consequently to be acclimatized to their novel surroundings and educated to benefit from the grazing which surrounded them.

Figures, of course, speak more eloquently than words, and surely the good results of the work already done by the A. V. C. will more than justify the remark already quoted—that it has "surpassed itself." And it must not be forgotten here that forty of the veterinary officers are employed on horse transport duty, when they are responsible for the feeding, watering, and treatment of all horses and mules on the ships, and for the destruction of any incurably diseased or injured animals. The losses of horses under their charge, except in one or two serious instances which were unavoidable, have consistently been under one per cent. This, when one recalls the fact that the animals are imported almost from the four corners of the earth, is reassuring. But it is the figures showing the whole work of the A. V. C.—so far, of course, as one is allowed at this juncture to publish them—that reveal the value of the work. The total number of animals treated in hospitals up to date has been 81,134: of these 47,192 have been returned to Remounts as cured, 4,266 have died, 4,843 have been destroyed, and 1,842 have been cast and sold, while 29,991 still remain in the hospitals and at the Convalescent Horse Depot under treatment. The sick rate has been approximately reduced by one-half, the number of convalscents by one-third, the death rate by a little less, and the number cast and sold is an infinitesimal proportion of the whole number.

* * * * * *

It is gratifying to feel that the great British public have been able, by voluntary aid over and above the cost defrayed out of the national taxation, to help towards this end through the medium of the R S. P. C. A. Fund for Sick and Wounded

Horses. This Fund, under the Chairmanship of the Duke of Portland, is the only one authorized by the War Office to aid the Army Veterinary Corps, and has endeavored by practical means to he'p on the work. The Society realized at the outset that work for the animals on the battlefields could only be done effectively if organized as a department of the Amry, by a *personnel* specially trained for the purpose and under military orders. Therefore the Committee of the Fund concentrated their attention on the provision of horse ambulances motor lorries for the carriage of fodder, etc., corn and chaff-cutters, rugs, bandages, and other requirements. The Fund has also built and provided hospitals for 2,500 horses on the lines of communication. Of the worth of this work the Commander-in-Chief, Field-Marshal Sir John French, has written:

> Sir John has received most satisfactory reports of the work done up to now by the Society, and has no doubt that its efforts for the care of the sick and wounded horses will have a most beneficial effect in shortening the period of sickness, and in reducing the wastage of horseflesh in the Army in France.

The Inspector-General of Communications Overseas, with special reference to the R. S. P. C. A. Fund Hospital, wrote:

> The Veterinary Hospital is now in full use, and the Society may rest assured that the splendid facilities for treatment which have been placed at the disposal of the State, and the extreme care and forethought which has been shown in providing the same, will bring the reward of an increased number of animals made serviceable to the State, and the alleviation of animals suffering under the trying conditions of war.

The Ear' of Lonsdale, who is so well known as a sportsman and horse-lover, paid a visit to France in the early part of the year, and subsequently wrote to the *Daily Telegraph* with reference—

> to the remarkable and to me extraordinary Army Veterinary Corps organization that exists at the front in the interest of animals. * * * I had heard much of the difficulties and suffering connected with the animals, but I have not the slightest hesitation in assuring the whole of the English horse-loving world that I do not believe, in all the various departments of the army, there is any branch of it that deserves more credit and shows more astonishing foresight in the preparation, alleviation of suffering, and general superintendence of the animal than do the Army Veterinary Corps and the Remount Department.
>
> I found that the veterinary surgeons, some of whom I knew, were most capable. The dressers were all that could be desired. The operating

theaters were arranged as perfectly as could be done in our own city of London. The instruments, medicaments, and everything necessary for the respective hospitals were of the finest quality, and, to my great surprise, up to strength for all requirements, and most fully equipped. * * *

Having said this, I think it is only due to all those in the Veterinary Corps and the Remount Department to testify to the extraordinary energy, the love of the animal, the time, hard work, and forethought displayed by all those connected with these two Departments. It certainly was a surprise to me, and I went into every detail, and have every facility granted me. I saw every horse, and I do think that we—the real lovers of animals (if I may so express it), whose interests we have so deeply at heart—should be not only satisfied, but most grateful, too, for the forethought, hard work, and endurance of all officers concerned.

* * * * * *

It is, of course, one thing to plan and arrange for an army, or even one of its many departments on paper, so as to fit in the various units of an immense force as part of the great "War Game," but it is a totally different affair to transfer the whole scheme to actuality, and to transport the complete machinery to a country across the sea. All the best organization on paper may be upset in an instant, and may have to be adapted to circumstances which, again in their turn, may give place to fresh ones dependent on the unexpected happenings of the moment; so that the elasticity of a scheme cannot be calculated with precision. The preconceived and defined work of the Army Veterinary Corps—which, in its present organization, is largely a result of the experience gained during the South African campaign, and which,as a Corps, dates, back only twelve years—is a case in point.

To appreciate fully the change that has come over this special side of war, one must have some idea of the veterinary organization which existed in the past. About twenty years before the outbreak of hostilities in South Africa, the "Regimenta " system obtained, with a veterinary officer responsible to no one but the commanding officer of each regiment. This meant, of course, that no other regiment could call on his services, and in time of war he would only attend to the animals of that regiment to which he was attached. The result was that each regiment had to look after its own sick horses under a system, which, years before, was shown to be impossible for the care of men on service, and applies with equal force to animals.

This service, having at last been recognized as a failure, was converted into a department, to which the veterinary officers were attached, but as no subordinate and definite *personnel* or hospitals were provided, the difficulties under which it labored during the South African campaign were immense and necessarily led to an inefficiency of method which was unavoidable. But while the British Army authorities still "economized" in this important direction, and withheld their sanction for the formation of veterinary hospitals, the Veterinary Department of the Indian Army had been given a free hand to create its own organization and was able on the outbreak of the South African War, to send veterinary stores and three fully equipped hospitals, each of which was capable of sub-division into two complete, self-contained establishments. From India also came the first mobile veterinary field chests, containing the necessary instruments, dressings, and medicines, which have served as a model and are being used at the present time.

It may not be out of place here to note that the necessity for veterinary hospitals, though it was forgotten or overlooked subsequently, was recognized a good many years prior to the South African campaign. In a War Office publication of 1887, entitled *Notes on Transport and on Camel Corps*, by Major D. B. Brown, Eighteenth Hussars, the following appears:

> Depots for sick animals must be formed on the line of communication at convenient intervals, each one being in charge of a veterinary surgeon, with a suitable number of farriers and attendants under him. These depots must keep pace with the formation and expansion of the transport, and should not be an afterthought called into existence only when the number of sick animals has increased to a large figure. They should be of two kinds—large and small. The latter are pushed up close to the Army, and take charge of fresh cases. All animals whose recovery depends upon time, and cases of debility requiring nourishment, such as the small depots are unable to furnish are passed to large depots in the rear. In the Abyssinian campaign depots for the treatment of the sick were formed at intervals of seventy-five miles apart.

Here we have, as it were, the ground-plan for future veterinary work which had, unfortunately, been ignored when our troops and horses first went to South Africa, and, though the evolution of a perfect hospital system, as it exists now, came slowly and with almost grudging assistance, the ghastly sacrifice of horses during that campaign will not have been made in vain,

if the present system is allowed to become a permanent feature of our Army. And this wastage of horses and mules, which naturally involved a tremendous loss of trained and, in the majority of cases, acclimatized or partially acclimatized animals was caused by having either to take along the sick of each regiment or leave them on the veldt to shift for themselves—a course which soon gave Brother Boer the advantage of free additions to his remounts! It was also largely augmented, after the discovery was made that the British sick horses were being cured and utilized by the Boers, by an enormous sacrifice of life which would have been quiet unnecessary had hospital arrangements been made. This led to the hasty organization of depots, in farms or any other places available, where some system for the care of the sick and wounded could be carried out. These centers, because of the shortage of qualified veterinary officers, were put under civilian veterinary surgeons, the majority of whom did excellent work under most difficult and, to them, novel circumstances.

It was not until six or seven months of the campaign had passed that the Veterinary Service of the Army was officially instructed to take charge of the sick, and provide hospitals for their accomodation and treatment. On the 18th of May, 1900, arrangements were made for the cavalry to supply the subordinate *personnel*, and units were to furnish stores from their scanty supply, which were to be supplemented by medicines found in the Dutch hospital in Kroonstad, where the hospital was inaugurated.

The site selected for the hospital had to be near the railway for forage supply, and close to water. This left very little choice of ground within the defended perimeter, but the best available site was selected between the railway station and river. The river ran between high perpendicular banks. A road was cut in the side with as gentle a slope as possible, for many of the horses had not strength to climb up the usual stiff path which is generally cut. The next thing to be found was an officer to place in charge. With so few with the force this was a matter of great difficulty. Generals do not like parting with their officers, and no officer likes the lines of communication, where the drugery passes unrecognized and unrewarded.

On the following day, the 19th, the hospital, with all its imperfections, was ready to receive cases, and on that day 358 cavalry horses and 400 from other units were admitted. This would be a good day's work for a well-organized establishment in thorough working order, but a crushing load for an establishment where no one knew the other by sight, not even the

veterinary officer in charge. There were scores of horses without head ropes, hundreds without nosebags, many without forage, which should have accompanied them for the day of admission. Non-commissioned officers had to be found and appointed to the various lines, instructed as to their duties, and given a proportion of men whom they had never seen before to carry on with. Non-commissioned officers and men were, during the day, taken away by their regiments for other duty without any reference, and their absence only discovered by accident. The men were tired and lay in groups on the ground, every attention to their horses being given grudgingly. As usual, the only men who, under these conditions, did any thing were the farriers and the shoeing-smiths; these were used as "dressers." The officer in charge, besides endeavoring to infuse some form of system and life into the inert mass, was being called to attend urgent cases, operate on backs, required here and there, and yet, in order to get any work out of this machine of mushroom growth, his constant presence in the lines was necessary.

On the 20th the cavalry furnished 156 more sick, a total contribution of 514 horses, and on this day there were 900 horses in hospital.*

This is but an example of how work poured in, and it is little to be wondered at that at Kroonstad, at Pretoria, and elsewhere where the new scheme of forming A. V. D. hospitals with makeshift men and scanty supplies was adopted, organization and discipline were difficult to maintain. All that happened was proof positive that "so long as the body remained a department, and not a corps, it was impotent."

But beyond all the difficulties of treating a constant stream of newly arriving patients, with scant veterinary necessities, the work was greatly complicated by an increasing dearth of qualified veterinary officers. To make up the deficiency civilian veterinaries new to military discipline and without military authority, or officers who, for various reasons, were unfit for work in the fighting line, were put in charge of these hastily constructed veterinary hospitals. A step had, however, been taken towards the desired end and another advance was made at the end of the year 1900, when—

the authorities decided that one thoroughly equipped Veterinary Hospital should be erected, equipment and *personnel* being withdrawn from other hospitals and sources, to complete what was intended should prove a model establishment. Here was developed, under successive administration, a hospital with stabling for 500 sick, general accommodation for over 2,000 horses, together with a good subordinate staff, and equipment for dealing with matters on a basis not previously permitted. The beginning of the year 1901 saw this hospital in full work, and it is fortunate that during the remainder of the war the Headquarter Staff of the Army, and others, had an

*"A Veterinary History of the War in South Africa."

opportunity of seeing the organization the Veterinary Service could put into their hospitals when given a free hand and assistance. From January to December, 1901, the total number of admission to this hospital was 24,606, of which 14,594 were cured, 6,540 were destroyed from various causes, and 2,142 died. In round numbers, it may be said that nearly sixty per cent. of the admissions were cured and returned to duty—a sufficient evidence, if any were required, of the value of a hospital.*

Yet, in spite of this, the fight for adequate recognition and help was not over. History was repeating itself. The medical department had fought and had won, though it took over forty years to consolidate the new position. The veterinary department had fought but had still the victory to win, and in the meantime it was the Cinderella of the Service. The idea that a veterinary hospital must needs be an offensive place took a lot of eradicating, and the notion that such a place should be central as well as healthy was regarded as presumptuous! But *autres temps, autres mœurs*. Now the organization is complete, from the veterinary stores at the base to mobile veterinary sections at the Front—each is a link in the chain which enables the Army Veterinary Corps to do its highly economic and really humane work.

The experience of the South African campaign demonstrated clearly the disadvantages of the old system, and the period of peace, which happily existed until that fateful day in August last, gave opportunity for organizing the work of the Army Veterinary Corps as it is at present carried out.

It will readily be understood that a very special training is in peace time, required so that the work of healing sick and wounded horses can be carried on by competent men. For this purpose, one of the first things to do was to establish a veterinary school where the men, mostly selected from cavalry regiments, could be instructed under the veterinary officers. In the many class-rooms and laboratories of this school, the practical training, as well as the theoretical teaching which is indispensable, is given, and the men renew their school days. In one room they learn the elements of anatomy; in another they take notes on the structure of the horse's foot; while in other parts of the building they are taught dental work, far-

*"A Veterinary History of the War in South Africa."

riery, stabling, food selection, hygiene, and a thousand and one items which make for the comfort and health of the Army's four-footed charges. They learn to clip horses, to poultice them, and to feed them with this or that food, according to the nature of their work, or their state of health. Before leaving, too they are instructed in their management on the march and on board ship; and last but not least, are taught to destroy them when necessary, with certainty and humanity. Attached to the school is a splendidly equipped Röntgen-ray department, and research laboratories are provided where officers may carry out advanced work in the prevention and cure of disease.

Extremely interesting, too, is the museum, which contain a large collection of bones showing the effect of saber and gunshot wounds. Here also are to be seen *papier-maché* models of field hospitals and concentration camps.

From these fully trained non-commissioned officers and men the military veterinary surgeons gain the assistance in carrying out their special work which was formerly supposed to be rendered by untrained, but perhaps very experienced farriers. The commissioned officers of the Corps, as in the old days of the Army Veterinary Department, are qualified veterinary surgeons who have passed four years at a veterinary college or university. They do not pass into the Army through Woolwick or Sandhurst, but sit for a special examination after their collegiate course. On joining the Corps each undergoes three years' probation, during which the fitness of the young officer for his career is decided. Of course in time of war this period of probation is waived, and civil veterinary surgeons are given commissions and work under military discipline. It says much for the patriotism of these men that so many have been found ready to throw up their private practices for this national work. For instance, at the present moment, some of the leading professors, now holding the comparatively humble position of lieutenants, are working in veterinary hospitals under men who have in former times attended their classes as students!

The Corps has, of course, been greatly strengthened for the period of the war, and the enlistment and training of the neces-

sary and often raw men—a work shared by the R. S. P. C. A.—has added to the task of organization. From a peace strength of 166 officers and 249 non-commissioned officers and men, it has been increased to 700 officers and 8,000 men. These numbers include, of course, the men of the special units working in the field, besides the mobile veterinary sections and veterinary hospitals, which are naturally increasing with the growing needs of the Army.

On active service each division of troops, in addition to veterinary officers attached to units, has a mobile veterinary section, consisting of one officer and twenty-two men, all mounted and provided with all the necessary veterinary medicines, instruments, dressings, etc., contained in a veterinary chest for the officer, and small chests and wallets for his subordinates. The work of this section is controlled from divisional headquarters by a senior veterinary officer, to whom the officer in charge of the section is accountable. This officer is the responsible adviser of the Commander and his staff on all technical matters appertaining to the veterinary service of the division, and administers the *personnel* of the Army Veterinary Corps attached to the division. The officers attached to the units are responsible for the treatment of the sick animals, and submit a weekly return of casualties to the senior officer; they also advise the commanding officer on all matters relating to the well-being of the horses under their charge. The detection and control of contagious diseases is one of their most important duties, another being to decide when a horse, owing to his condition, should be painlessly destroyed.

Mobile sections are divided into two sub-sections—one to collect fit horses from the firing lines and other places and to destroy the badly injured ones; the other to receive the sick and wounded animals and convey them to railhead, and thence to the nearest base veterinary hospital. Each of these hositals—which are organized to deal with 1,000 cases—has a staff of 399 officers and trained men, including farriers, shoeing-smiths, saddlers, dressers, stable hands, and Army Service Corps drivers for the ambulance, forage and other service wagons.

From the Veterinary Stores the medical stores are sent to base stores overseas, which control and superintend the

sending of supplies to the various veterinary hospitals on the lines of communication, and to the mobile section in the firing line.

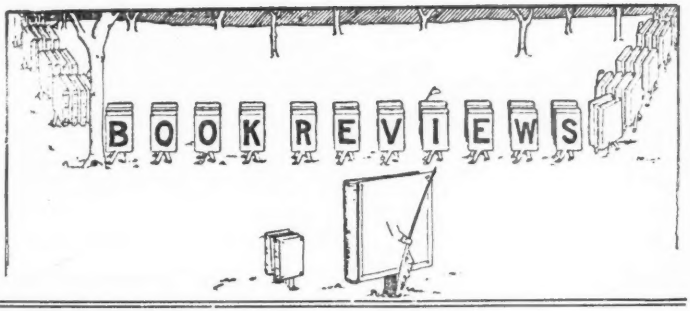
Medicines, dressings, instruments, and bandages are of course necessary; but the veterinary officer on the battlefield does not rely on them to a great extent His chief anxiety is to get his casualties, whenever possible, and if this can be done without unnecessary suffering, transferred at once to one of the hospitals where, naturally, there is every provision for their treatment. Should circumstances permit, however, cases of slight sickness or injury are treated on the spot, and a temoporarily incapacitated horse is turned out to grass for a few days at a neighboring farm. In the event of a rapid advance, when time does not allow o the immediate transfer of horses to railhead they are left at some suitable place in charge of a non-commissioned officer, and are collected later by the second sub-section of the Mobile Section.

From the foregoing we may surely see that the British nation and the Army authorities have come to realize the value of the horse in warfare, not only as a most important factor in the success of a campaign, but also as a sentient creature, for whose comfort, health, and well-being every care should be taken. And so horses in war—regrettable as it is that these fine animals should have to be so utilized and sacrificed—are at last, and as far as possible, coming into their own, for with a special Corps to look after them they are within sight of being treated on a level with their human friends and foes.

When, without any undue and insular partiality, we contrast our own splendid Veterinary Service with the corresponding organization of other armies, and learn that at every point the British system has established a marked superiority, we may well congratulate our Army veterinary authorities for their thoroughness and foresight. When we reflect, too, that this admirable system is a product of but twelve years' growth, and that all its diverse arrangements have been made on original lines, we realize with pride that our Army is second to none in initiative, and sets an example to the whole world in humanity to its dumb servants.

The time, unfortunately, has not yet come for animals—drawn into the strife of nations—to be recognized as deserving protection under the flag of the Red Cross Society. Let us hope that, at the close of this war, that important recognition—which has been accepted by the British Government, in principle, on the plan suggested by the R. S. P. C. A.—will surely receive international sanction. And why should it be withheld?

E. G. FAIRHOLME.



Engineer in War.*

This is a handbook of 187 pages—5″ x 7½″—by Major Bond, Corps of Engineers, U. S. Army, a well known military student and writer. It was expected that an extended and critical review of this work would be received for this number of the JOURNAL, but in this we have been disappointed. We can, therefore, give only a brief notice of its contents at the present time.

The following are extracts from the Preface of the Bock:

"In the following pages is presented a brief outline of the relation of Engineering to the conduct of war and the adaption of the principles and practices of civil engineering to military requirements. If the author succeeds, to however a small degree, in arousing interest of the engineering and contracting profession in this important question of national defense, he will feel that his effort has not been in vain.

"While intended primarily for the engineer and contractor, it is hoped that the subject matter of this volume may

*"THE ENGINEER IN WAR." With Special Reference to the Training of the Engineer to Meet the Military Obligations for Citizenship. By Major P. S. Bond, Corps of Engineers, U. S. Army; Member Am. Soc. C. E.; Honor Graduate Army Field Engineer School; Graduate Army Staff College. McGraw-Hill Book Co., Inc., 239 West 39th Street, New York. 1916. Price unknown.

prove of interest to all who contemplate the possibility of military service to the country in case of need. This for the reason that the practice of military field engineering is not limited to officers of engineers. Because of the comparatively small number of engineers that will be available, any officer of the combatant forces may be called upon to practice the art and cannot be regarded as properly trained unless he is prepared to do so."

The titles of the several chapters are as follows: The Military Policy of the United States; General Duties of the Military Engineer and Economics of Military Engineering; Tools, and Equipment Employed in Military Engineering; Stream Crossings; Military Roads; Field Fortifications and Siege Operations; Military Demolitions; Military Reconnaissance; Sketching and Surveying; Military Sanitation; The Mobilization of Material Resources; How May the Engineers and Contractors of America Prepare to Meet the Military Obligations of Citizenship; together with a Bibliography, Glossary and Index.

Not the least valuable of the several parts of the book is that of the bibliography.

Trained Citizen Soldiery.*

This is a new book on preparedness that proposes a scheme of universal training for military service which differs in many respects from any that has been advanced heretofore.

Some "Military Expert" has written of this book: "The more I read and study the various and sundry schemes placed on the market for National Defense, the more convinced I am that your plan combines and makes feasible the best and most practical features of them all."

*"TRAINED CITIZEN SOLDIERY." A Solution of General Upton's Problem. By Major John H. Parker, U. S. A., Pioneer of the Machine Gun Service, Gold Medalist Military Service Institution. George Banta Publishing Co., Menasha, Wisconsin. Price, $1.25.

Briefly the author quotes from Upton's Military Policy of the United States to show our military weakness and the main features of his proposed system for bettering these conditions. He then enlarges upon these conditions and finally evolves a system based upon a trained citizen soldiery in support of a moderate regular army.

The headings of the several chapters are as follows: Failure of our Present System; A New System (so headed, although devoted to giving specific faults of our present system); Preliminary Data for Estimates of Cost; Estimate for Permanent Personnel; Financial Estimates; The Alternative; Preliminary Discussion of Military Organization; The Proposed Organization; Commissioned Personnel; The Transition Period, and finally a rough draft of his proposed bill is given.

In short, the author proposes a sort of continental army, which scheme was recently turned down by Congress and will be kept down in any plan that does not consider the National Guard as a part of the first line of defense.

Patrols, Scouting, Messages.*

This is a very neat little pamphlet prepared by Lieutenant Joyce and issued by the Adjutant General of California for the instruction of the National Guard of that State.

It contains much information of great value to the cavalry non-commissioned officer and trooper of both Regular and Militia Organizations. Every soldier should be given an opportunity for reading it.

The text, consisting of only twenty-two pages, is especially well arranged and can be carried in the blouse bocket.

B. L.

*"PATROLS, SCOUTING, MESSAGES." By First Lieutenant Kenyon A. Joyce, Sixth Cavalry. California State Printing office. 1916. (It is understood that the edition of this pamphlet is nearly exhausted but that it will be reprinted in case there is a sufficient demand for it.)

BOOK NOTICES.

"With My Regiment from the Aisne to La Bassee." By "Platoon Commander." This is the first of a series of books either written or compiled from notes and letters by those participating in the great European War. In this case the writer is unknown but he gives an interesting account of his experiences as an English subaltern who was sent out with a batch (draft) of recruits to join a regiment at the front to which he had been assigned. He finally, after much difficulty with drunken and undisciplined men, joined on the Aisne and served with his regiment until wounded in front of La Bassée when he was invalided home. The book gives one an insight into the life of English officers and men in the field and of trench warfare. J. P. Lippincott Company, Philadelphia. Price, $1.00, net.

"Dixmude. The Epic of the French Marines—October 17 to November 10, 1914." By Charles Le Goffic. Translated by Florence Simmonds. Maps and Illustrations. This is a compilation from letters, notes, reports, etc., giving the history of the work done by the Naval Brigade of French Marines at Dixmude, where, in covering the great retreat, they, with 5,000 Belgians, held at bay for over a fortnight three German Army Corps. Dixmude is spoken of by the French as their Thermopylae. J. B. Lippincott Company, Philadelphia. Price, $1.00, net.

"In the Field. (1914–1915.) The Impressions of an Officer of Light Cavalry." By Marcel Dupont. Translated by H. W. Hill. An interesting story of the service of a Light Cavalry Regiment of the French Army during the retreat from Belgium and the advance from the Marne and their

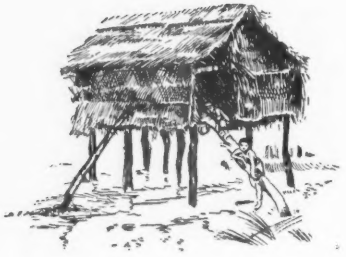
experience in the trenches. It was evidently written by a gay, lighthearted cavalryman, but at the same time a gallant soldier. The account of Christmas day spent in the trenches is most pathetic. J B. Lippincott, Philadelphia. Price, $1.00, net.

"AN ARMY WOMAN IN THE PHILIPPINES." By Caroline S. Shunk. The book is made up of extracts from letters of an army officer's wife, describing her experiences in the Islands. It is quite freely illustrated with views of scenes in Manila and elsewhere which adds to its value. "That these letters were not written for publication enhances their value, because of the kind and quality of the information given. After reading the manuscript, a well-known critic expressed the following opinion: 'They are delightful, vivid, interesting, and charmingly written.' " Franklin Hudson Publishing Co., Kansas City, Mo. Price, $1.25.

"COMPANY TRAINING—INFANTRY." By Captain Cromwell Stacey, U. S. Infantry. A small book of 173 pages—5″ x 7″—intended for the instruction of the National Guard. The troduction states: "It is at the request of friends in the Guard that this little book is written. * * * The handling and training of military men is a science as old as the world itself. I claim nothing new." Franklin Hudson Publishing Co., Kansas City, Mo. Price, $1.00.

"ATTACK AND DEFENSE OF FORTIFIED HARBORS." By Captain Arthur P. S. Hyde, C. A. C. (Second Edition.) Map and Illustrations. This book of 81 pages—5″ x 7″—was originally published as a series of articles in a Seattle newspaper and has reference particularly to the defense of Puget Sound. It is primarily intended for the instruction of the coast artillery officers of the National Guard. Franklin Hudson Publishing Co., Kansas City, Mo. Price, seventy-five cents.

"COAST ARTILLERY MATERIAL—DESCRIPTION, ADJUSTMENT AND OPERATION IN DRILL AND TARGET PRACTICE." By Captain W. P. Platt, C. A. C. A book of 170 pages—5″ x 7″—which was "prepared especially for officers and enlisted men of the National Guard, and recommended for their use by the Division of Militia Affairs of the War Department." Franklin Hudson Publishing Co., Kansas City, Mo. Illustrated. Price, sixty cents.



Editor's Table

THE ARMY BILL.

The Act of Congress for the reorganization of the army—the so-called National Defense Bill—became a law on June 3, 1916. The bill as finally adopted was as usual a compromise. Probably, however, there never has been in the history of legislation in this country, a case where there had been so many widely divergent provisions to be reconciled as in the redrafting of this bill from the two separate and distinct bills that each branch of Congress had adopted.

In some respects at least the compromise measure was an improvement on either of the bills, while on the other hand several objectionable riders were tacked on in conference.

As a whole the result as regards the mobile army, and we are principally interested in those features of the reorganization scheme, was far better than the most sanguine of our officers anticipated, especially after the bill had passed the House with but a moderate increase in the infantry and with none whatever in the cavalry arm, and more particularly after the house had persistently voted down any proposition for any further increase.

The cavalry arm and the country at large is to be congratulated on the decided increase in our branch of the service. We all knew that such an increase was necessary and none too large, even if large enough. It will be understood that no such increase would have been given were it not for the existing conditions along our southern border and in Mexico and that the activities of one Pancho Villa had a strong influence in retaining

the provision for ten extra regiments of cavalry as well as for the increase in the other arms.

In addition to the increase in the number of regiments of the mobile army, the giving of the headquarters troop, company or battery, the supply company to each regiment and the machine-gun troop or company to each regiment of cavalry and infantry was a step in the right direction. More particularly is this true as regards the machine-gun troop or company which has been heretofore an orphan and much neglected organization.

We are also to be congratulated that the three squadron, four troop organization has been retained and which so large a majority of our cavalry officers favored.

The principal good features of the bill, as regards the mobile army, are as folllows:

The increase in the number of general officers and the requirement that they shall be selected, *in time of peace*, from officers of the next lower grade *of the line of the army*.

The status of veterinarians has been greatly improved and deservedly so.

The establishment of the grade of first class private in the troops, companies and batteries.

The requirement that all appointments to the grade of second lieutenant, other than graduates of the Military Academy shall be provisional for a period of two years. At the end of such period their appointment shall be made permanent, provided they shall have demonstrated their suitability and moral, professional and physical fitness for the service. This is a most important provision and if we do not, by strictly observing its requirements, weed out the inefficient, the lazy and the booze artists, we deserve to be hampered with them until the end of their military days.

The provision that the increase in the army shall be made in five annual increments is a wise one, were it not for the fear that the other two, three, four or five increments may never be made. The great difficulty in obtaining suitable men and officers for all the increase at once would be difficult if not impossible. In addition, the training and disciplining of so large an increase with so many new and untrained officers would be

a long and tedious job that would last nearly if not quite the five years now provided for, and then it is doubtful if the results would be as satisfactory. On the other hand, it was plainly indicated in the debate in the House that should conditions on the border and in Mexico become settled and should the country-wide hysteria for preparedness subside, Congress could and probably would see that the remaining unfilled increments were not made.

Probably the section which has caused more discussion, which has more provisos and provisions and which is more difficult to understand of any in the entire bill is that regarding the Detached Officers. In addition to giving over a thousand extra officers, including those already authorized, it is intended as a sort of cure-all for the equalization of promotion. Whether or not it does this the writer is free to say that he does not know nor has he found any one that does know. It certainly contains many provisions that will afford opportunity for deep thought on the part of those whose duty it will be to interpret its many subjects. One thing that is known is that it gives seventeen extra colonels of cavalry and four extra colonels of infantry *with a view further to equalize inequalities in past promotions of officers of the line.*

That the provisions of the bill as regards the attempts to equalize promotion is not satisfactory to all is shown by several letters already received from cavalry officers regarding its effect. One writes as follows:

"There seems no great reason for the cavalry service to congratulate itself on what was obtained. The vital issue—that of using the detached list as a reservoir for equalizing—was lost, and the gain made by the bait of seventeen additional colonels is, comparatively, very, very small, except, of course, for about seventeen junior lieutenant colonels and the same number of senior majors. In fact the increase of the army makes the cavalry more behind than ever before. * * * I do not deny that we are getting promotion, but equality—No! That is now impossible."

Another complains of the injustice that will be done those coming in from the volunteers in 1898–1901, by not counting all their service in selecting for the Detached Officers' List

under this section. While, as stated above, your Editor does not understand or comprehend the provisions in this respect, a hasty glance at the requirements would give the impression that his fears are groundless. The parts mentioning "length of commissioned service" read as follows: "And thereafter any vacancy created or caused in any of the said arms of the service by the assignment of an officer of any grade to said Detached Officers' List shall be filled, subject to such examination as is now or may hereafter be prescribed by law, by the promotion of the officer who shall be *senior in length of commissioned service* of those eligible to promotion in the next lower grade in the arm in which such vacancy shall occur," and again: "*Provided further*, That after the apportionment of officers to said Detached Officers' List shall have been made as authorized by this Act, whenever any vacancy shall have been caused in said list by the separation of an officer of any grade therefrom, such vacancy shall, except as prescribed in the last peceding proviso, be filled by the detail and assignment to said list of an officer of the corresponding grade in that arm in which there shall be found the officer of the next lower grade who at that time shall be the *senior in length of commissioned service* of all the officers of the said lower grade in all of the four arms hereinbefore specified. (The italics are ours.)

All this goes to show that the only just, fair, equitable, honest and righteous scheme for equality of promotion is that of "THE ONE LIST FOR PROMOTION."

The remaining numerous sections, outside of those relating to the length of enlistment and providing for a regular army reserve, is devoted to the National Guard, the Volunteer Army, the Officers' Reserve Corps, the Enlisted Reserve Corps, and many other minor provisions.

Publisher's Notices

Modern Horse Management.

The advertisement of this important book appears in this number. It is a work that should be in the hands of every cavalryman and other horsemen. A review of the book appeared in the January, 1916, number of the CAVALRY JOURNAL. There it was stated that it was: "A thoroughly practical treatise on every phase of horse management."

The Savage Arms Co.

This well known firm manufactures the Savage automatic pistol, the Savage rifle and the Lewis machine gun. The first is a small, light weight automatic pocket arm intended for police and defensive use; the second is a sporting rifle of great accuracy, while the third is the famous machine gun which has proved its worth on the battlefields of the great war in Europe.

W. Bianchi.

Attention is invited to the advertisement of this firm which manufactures fine woolens for uniforms for the Army, Navy and Marine Corps.

Jacob Reed's Sons.

This old and well known firm of military tailors has branched out and now supplies all kinds of standard equipment for officers of the army. In addition to their old establishment in Philadelphia, they now have branches at Washington, New York, Atlantic City and Annapolis.

The E. I. Du Pont de Nemours Co.

This long established firm of manufacturers of powder of all kinds has a reputation that is world wide. Their advertisement which appears in this number of the JOURNAL mentions only the various kinds of rifle powders made for them. It includes any and all that is needed for any kind of small arm cartridges.

Mills Woven Cartridge Belt Co.

It is scarcely necessary to call the attention of our readers to the articles manufactured by this firm. Wherever there is an army in the world, their there goods are to be found. The originator of the woven belt principle is an old cavalryman who first learned the necessity for such belts on our western plains where we formerly made our field belts out of old canvas which, however, never filled the bill as do those now manufactured for the service by this firm.